FOREIGN CAPITAL INFLOWS AND EMPLOYMENT: EVIDENCE FROM SOUTH ASIAN COUNTRIES

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FOREIGN CAPITAL INFLOWS AND EMPLOYMENT: EVIDENCE FROM SOUTH ASIAN COUNTRIES

By

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ABSTRACT

This study is conducted to enlighten the first-line issue of Foreign Capital Inflows (FCI) and employment in South Asian countries such as Bangladesh, India, Pakistan, and Sri Lanka. These countries are inclined to have heavy FCI, since realize the deficiency of capital as root cause of their macroeconomic problems. The study reveals that FCI are evident in their escalation towards South Asian countries however, are less prompt in the evacuation of depressed state of employment. The study was to analyze secondary data for two periods i.e. 1972 to 2014 and 1980 to 2014. Autoregressive distributed lag, impulse response and variance decomposition, fully modified ordinary least square, seemingly unrelated regression, and Granger causality analyses were performed to validate and measure the effects of FCI onto the level of employment. The analyses of autoregressive distributed lag reveal assorted outcomes of each category of FCI at either of the countryside whereas analytics of fully modified ordinary least square divulge worker remittances as the only form of FCI that ascertain positive relationship with employed labor force of South Asian countries. The results of impulse response and variance decomposition also illustrate different impacts of each of the component of FCI whereby Granger causality analyses confirm the causality between employed labor force and the components of FCI. At large, seemingly unrelated regression results suggest that the combined effects of FCI are significant and positive while South Asian countries are segregated. The study concludes to be as substantial for the governments and policy makers of South Asian countries to have different consideration among FCI. The implementation of pragmatic policy can lead towards much more of the progressive fallouts of such vital FCI on raising employment in such countries.

Keywords: employment, foreign capital inflows, South Asian countries.

ABSTRAK

Kajian ini dijalankan bagi merungkai isu utama yang berkaitan dengan Aliran Masuk Modal Asing (FCI) dan gunatenaga di negara-negara Asia Selatan iaitu Bangladesh, India, Pakistan dan Sri Lanka. Negara-negara ini cenderung untuk mempunyai FCI yang besar kerana menyedari kekurangan modal menjadi penyebab utama yang menghalang pencapaian kesejahteraan makroekonomi mereka. Kajian ini mendedahkan berlaku peningkatan FCI yang lebih terarah kepada negara-negara Asia Selatan, meskipun ianya agak lambat untuk mengatasi tingkat gunatenaga yang rendah. Kajian ini menganalisis data sekunder bagi dua tempoh iaitu 1972-2014 dan 1980 – 2014. Kaedah autoregresif lat tertabur, gerak balas impuls dan penguraian varian, kuasadua terkecil modifikasi penuh, *seemingly unrelated regression*, dan ujian Sebab-akibat Granger digunakan dalam analisis untuk mengesah dan mengukur keberkesanan FCI ke atas tingkat gunatenaga di negara-negara Asia Selatan. Analisis autoregresif lat tertabur menunjukkan pelbagai keputusan bagi etiap kategori FCI untuk sesebuah negara manakala analisis kuasadua terkecil modifikasi penuh menunjukkan hanya kiriman wang pekerja yang mempunyai hubungan positif dengan gunatenaga bagi negara-negara Asia Selatan. Keputusan gerak balas impuls dan penguraian varian menunjukkan kesan yang berbeza bagi setiap komponen FCI. Analisis Sebab-akibat Granger mengesahkan wujud hubungan sebab-akibat antara gunatenaga dan komponen FCI. Keputusan *seemingly unrelated regression* menunjukkan kesan gabungan FCI adalah penting dan positif apabila mengasingkan negara-negara Asia Selatan. Kajian mendapati amat perlu bagi kerajaan dan pembuat dasar memberi pertimbangan yang berbeza dalam kalangan FCI. Perlaksanaan dasar yang pragmatik dapat menjurus kepada sumbangan FCI yang lebih progresif ke arah peningkatan gunatenaga di negara-negara Asia Selatan positif apabila mengasingkan negara-negara Asia Selatan.

Kata kunci: gunatenaga, aliran masuk modal asing, Negara-negara Asia Selatan.

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I begin to write with all praises to Allah, The Most Gracious and The Most Merciful.

Millions of salutations on Mustafa, essence of mercy,
Millions of salutations on the light of guidance.

The blessed mouth whose every word was a revelation from Allah,
Millions of salutations on the fountain of knowledge and wisdom.

He owned the whole world yet fed on barley bread alone,
Millions of salutations on that contented appetite.

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Khawaja Asif Mehmood

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LIST OF ABBREVIATIONS

ADF	Augmented Dickey and Fuller
AIC	Akaike Information Criteria
ARCH	Autoregressive Conditional Heteroscedasticity
ARDL	Autoregressive Distributed Lag
CONS	Household Final Consumption Expenditure
CPI	Consumer Price Index
CUSUM	Cumulative Sum of Recursive Residual
CUSUMSQ	Cumulative Sum of Square of Recursive Residual
DAC	Development Assistance Committee
DF	Dickey and Fuller
DW	Durbin-Watson
ECM	Error Correction Model
ECT	Error Correction Term
EMPL	Employed Labor Force
FCI	Foreign Capital Inflows
FDI	Foreign Direct Investment
FEVD	Forecast Error Variance Decomposition
FGLS	Feasible Generalized Least Square
FMOLS	Fully Modified Ordinary Least Square
FORAID	Foreign Aid
FORDBT	Foreign Debt
GCF	Gross Capital Formation
GDP	Gross Domestic Product

LIST OF ABBREVIATIONS

GLS	Generalized Least Square
GMM	Generalized Method of Moment
GNP	Gross National Product
ILO	International Labor Organization
ILOSD	International Labor Organization Statistics and Databases
INF	Rate of Inflation
INVT	Investment
IPS	Im-Pesaran-Shin
IR	Interest Rate
IRF	Impulse Response Function
IRVD	Impulse Response and Variance Decomposition
LFSGOB	Labor Force Survey, Government of Bangladesh
LIT	Rate of Literacy
LKR	Sri Lankan Rupee
LM	Lagrange Multiplier
MEC	Marginal Efficiency of Capital
MFGOB	Ministry of Finance, Government of Bangladesh
MFGOI	Ministry of Finance, Government of India
MFGOP	Ministry of Finance, Government of Pakistan
MFGOSL	Ministry of Finance, Government of Sri Lanka
MLEGOI	Ministry of Labor and Employment, Government of India
MPC	Marginal Propensity to Consume
ODA	Official Development Assistance

LIST OF ABBREVIATIONS

OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Square
PDOLS	Panel Dynamic Ordinary Least Square
PKR	Pakistan Rupee
POP	Population
RESET	Regression Equation Specification Error Test
SAARC	South Asian Association for Regional Cooperation
SAC	South Asian Countries
SBP	State Bank of Pakistan
SC	Schwarz Criteria
SDB	Statistics Department, Bangladesh
SUR	Seemingly Unrelated Regression
TSLS	Two Stage Least Square
UNSD	United Nations Statistics Division
US	United States
USD	U.S Dollar
VAR	Vector Autoregressive
VECM	Vector Error Correction Model
WBDI	World Bank Development Indicators
WREM	Worker Remittances

CHAPTER 1

INTRODUCTION

1.1 Introduction

Foreign Capital Inflows (FCI) are used for incorporating the measures to address the economic problems of the host country. This chapter initially gives a background of the study that enlightens the facts that employment creation is one of the important macroeconomic objectives of any country, supplemented with the situation of FCI and state of unemployment in South Asian Countries (SAC) for instance Pakistan, India, Bangladesh, and Sri Lanka in different time span. In this chapter, it is discussed via evidences about the persistent unresolved problem of unemployment in SAC in line with the unbroken flow of FCI. This chapter also raises questions for how FCI may affect the employment in SAC coupled with the research objectives. Lastly, followed by the importance of study, this chapter gives a precise note on scope of the study that is being executed on rationalizing the linkage of FCI with employment in SAC.

1.2 Background of the Study

Since the great depression of 1930's, unemployment issues are of great concern for especially the developing economies. In the sequel of rise of unemployment problems during that era, it induced the economists to work on coming up with the theories of unemployment and perhaps to suggest for the appropriate measures that could be taken to get rid of unemployment as well as to highlight the factors that are responsible for the cause. Probably if not a root cause, but indeed lack

of capital availability is a factors that never makes the countries capable of addressing the problem of unemployment, once it exists.

Employment creation and to widen the employment base in developing economies of the world in particular is always taken as a first line objective by the concerned authorities i.e. the government. The developing countries of the world are found trapped into the problems of unsatisfactory economic growth rate, poverty, and unemployment. However, if the issue of unemployment is solved, the concerns regarding poverty and depressed economic growth rates may also get disappear. In order to capture strength in economic growth, that is needful for particularly SAC, it is supposed to remain muted unless job opportunities are created for the available labor force.

All that is needed is to focus on exploring for the channels that can help in condensing the wide spread issue of unemployment. In general, if need for the capital is fulfilled, it can be translated into the lowering down of unemployment pressure. However, SAC for instance are accompanied by the wide gaps on account of savings and investments[1] that cause for the deficiency of capital, never make it possible for them to initiate for any policy against the subject of unemployment. In this respect, looking into the FCI for which these countries are found in making themselves attractive for the maximum pledges can help in mending up of the short fall of capital prevalence within the country, which is indeed a cause of unsuppressed level of their employment growth.

This is the historic argument of Chenery and Strout (1966) in their attempt of presenting dual-gap model that such vital inflows always play consequential role especially in economies those are adhered to the problem of capital deficiency. These inflows are also the means for building up of globalization and setting trends of

economic integration. FCI are always accepted and greeted by the developing economies as of being important instruments that are supposed to help them in their economic development and in addressing up issues on macroeconomic front.

In line with tracing the description of FCI from the theorist like of Pissarides (2000), Little and Mirrlees (1974), Kuznets (1966), Williamson (1968), and Hertner and Jones (1986), FCI are actually the flows of financial resources from one country to another. Therefore, FCI must always be considered in a broad spectrum. FCI are the financial transactions like of lending of money by the governments of other countries and/or from international organizations like of banks or money lent in context of either short term or long term lending and investment in equities and direct investments (Obadan, 2004).

These vital inflows of foreign capital can help the countries in creating jobs for the available labor force. Even if we look towards the problems of poverty, unemployment, and economic growth in SAC, such problems may be tackled-with by using such vital FCI. In general, these FCI can be categorized into three main components; Foreign Direct Investment (FDI), foreign aid and debt, and worker remittance (Ali & Nishat, 2009; Khan & Khan, 2011; Malik, Chaudhry, & Javed, 2011). Undeniably, there is an immense need to cater such vital foreign inflows. Without exception for SAC, these inflows can be the sources for encountering problems like of depressed economic growth, poverty, and unemployment, but in aligned with internal harmony so that to be attract full for such inflows.

SAC believe in open bordered economic standings therefore receive a reasonable flow of foreign capital in multifold dimensions. FCI in all of their dimensions bring up significant effect on macroeconomic aspect of their recipient country. In this respect, SAC can use these vital inflows for coping up with the major

problems they face. Better channelization of FCI can be used as a successful attempt in capturing maximum benefits which would result in improving the vulnerable state of macroeconomic indicators. FCI, in particular, can surely be used in ways that help in creating jobs. In the sequel of such precious capital inflows, economy grows and problems like unemployment are resolved (Jayaraman & Singh, 2007). Measures that are taken by the governments of developing countries of the world in an attempt of achieving highest and heaviest flow of foreign capital are sometimes appear as complex. Thus, the need is to focus on the macroeconomic aspect of a country for better settlement of strategies and policies to make her more attractive for the pledge of foreign inflows.

Countries in the block of South Asia are Pakistan, India, Bangladesh, Sri Lanka, Nepal, Bhutan, Maldives, and Afghanistan. The organization that keeps them joined is South Asian Association for Regional Cooperation (SAARC). Table 1.1 enlightens the facts that; of the eight countries in this region, measuring the size of economy, it appears that Bhutan, Maldives, and Nepal have the low Gross Domestic Product (GDP) thus, do not capture significant attention on account of macroeconomic issues.

Nevertheless, Bhutan is a country that has smallest size of economy in terms of GDP i.e. 1.82 billion U.S Dollar (USD) complemented with low and stable rate of unemployment of 3.1 percent, lowest level of population which is 0.07 million, and the lowest receivables of FCI. The population of Maldives in-total is the lowest in slab of SAC i.e. 0.3 million, which is for instance too low to capture considerations on account of unemployment issues. Nevertheless, economy of Maldives, in respect of size, is also the nominal amongst the list of SAC. Of Nepal, the statistics on

Table 1.1

Macroeconomic Facts on South Asian Countries (2014)

Country	Population (In million)	GDP (billion USD)	FDI net inflows (billion USD)	Foreign Aid (billion USD)	Foreign Debt (billion USD)	Worker Remittance (billion USD)	Unemployment rate (%)
India	1267.402	2066.902	34.411	3.228	16.099	70.389	3.8
Pakistan	185.133	246.876	1.778	2.341	3.209	17.066	6.2
Bangladesh	158.513	173.819	1.527	2.119	3.033	14.228	4.5
Sri Lanka	20.639	74.941	0.857	0.423	3.492	7.017	4.0
Bhutan	0.078	1.821	0.008	0.135	0.293	0.014	3.1
Maldives	0.380	3.032	0.363	0.023	0.077	0.003	11.7
Nepal	24.400	19.636	0.074	0.871	0.264	5.589	2.1
Afghanistan	32.007	20.842	0.060	5.266	0.036	0.538	7.0

Source: The World Bank Development Indicators (2014).

unemployment reflect for clear picture that it is a country in South Asian region that account for the lowest rate of unemployment i.e. of 2.1 percent. Afghanistan is economically un-stabled, considered as nursery of terrorism, thus is conceivably not worthy of foreign investments and a recipient of sound FCI. It is so because the government is not ever stabled over there and secondly, there are so many ethnic groups having political and social conflicts amongst each other which fail to capture the attentions of FCI.

Having noticed all these facts, while tracing out for the effects of FCI on employment level, it is deemed to omit these four countries. Taking into consideration Pakistan, India, Bangladesh, and Sri Lanka is justified for the fact that these four countries are at the receiving end of the largest flow of foreign capital, bear largest size of population, and of economy that clarifies and acknowledges the fact that large economies have large scale economic problems.

FCI do preserve their substantial state in SAC. Meaning that, the SAC are seen as restless towards their attempt of being good host to FCI. That is the reason why FCI pledges to SAC are almost more than double since 1980-1996 to 1997-2014. What is considerable here is that the composition of each category of FCI changed while moving from one span of time to that of the next. Figure 1.1, on account of Pakistan, makes it apparent that not only though worker remittance has been dominant in both of the eras rather foreign aid and debt retained their same state of standing. FDI exhibited for the lowest share amongst the container of FCI. Since 1980 to 2014, along with quantum rise in FCI, share of FDI also increased noticeably which was indeed being at the lowest portion of the FCI in 1980 to 17 years onwards.

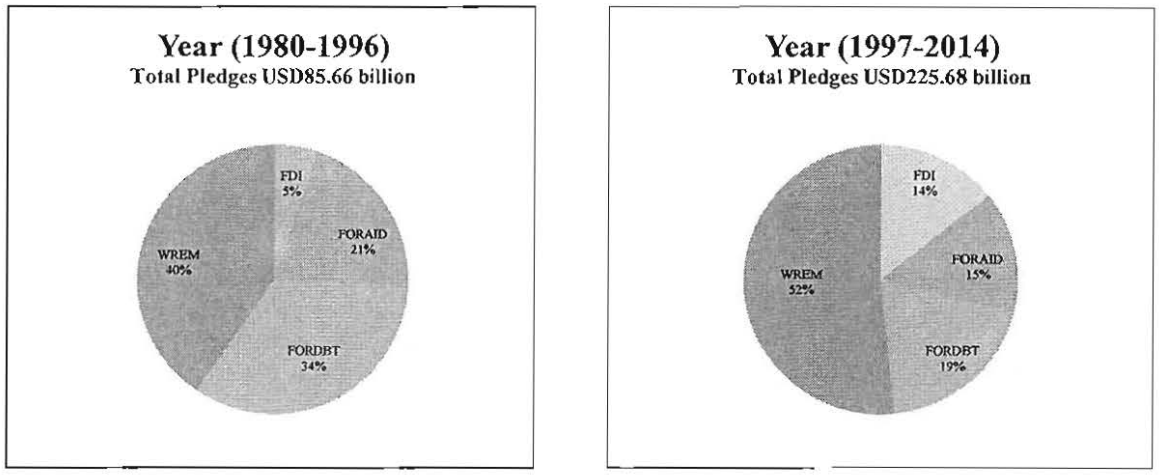


Figure 1.1
Composition of Foreign Capital Inflows to Pakistan
Source: Estimation is based on World Bank (2014)

India not being away from the state of expression for proving hospitality for hosting FCI, exhibited for exceeding the barrier of more than one trillion USD on account of the receivables of FCI during last 35 years. Figure 1.2 intends to make it certain that unlike in 1997-2014, worker remittance was dominated by foreign debt back in 1980 to 1996. FDI was quite low in its composition among the total FCI. However, it is quite appreciable to note that foreign aid reduced to minimal, moving from 1980 to 2014, and thus confirmed that increase in FCI got composed into worker remittance and FDI, with significant fall in foreign debt, specifically during the same era. It is meaningful to note that the amount of total FCI to India increased geometrically. Nevertheless, share of FDI by 1997 to 2014 is quite ascertain to prove that flow of FDI, as being vital FCI, also jumped to more than 25 percent of its share compared to previous state of position.

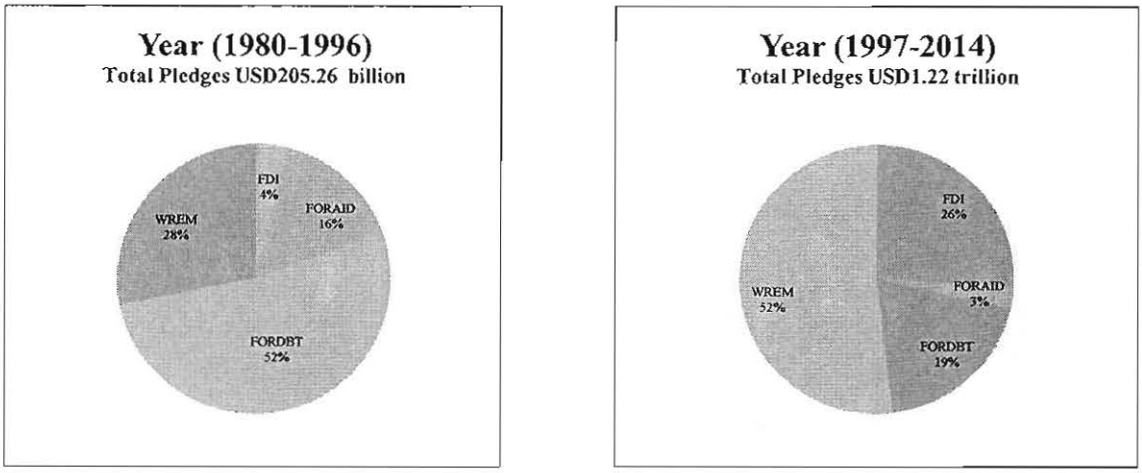


Figure 1.2
Composition of Foreign Capital Inflows to India
Source: Estimation is based on World Bank (2014)

As evident in Figure 1.3, too low has been the share of FDI to Bangladesh, i.e. almost negligible, since 1980 to 1996. During the same era, foreign aid proved of its state of being the highest pledges. Whereby, worker remittance and foreign debt both shared the volume of about 52 percent of the total FCI. However, the situation changes by coming 18 years when total volume of FCI increases to USD181.02 billion. That is a time which clarifies that share of foreign aid and debt is taken over by immense inflows of worker remittance, which approached to the mark of bearing 66 percent of total dimensions of FCI. This heavy flow of FCI, that reduced the intensity of dependency on foreign debt and aid, complementarily induced to enable FDI to be got up from its negligible share to about seven percent of the total volume of FCI.

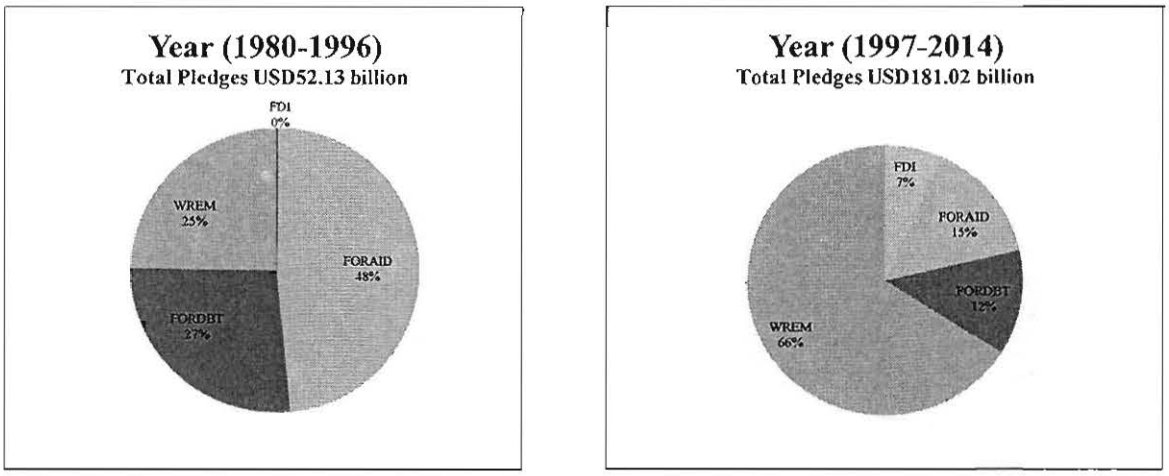


Figure 1.3
Composition of Foreign Capital Inflows to Bangladesh
Source: Estimation is based on World Bank (2014)

Opening the comments on the trends of FCI in Sri Lanka, it seems that share of foreign aid, as evident in Figure 1.4, remained the highest amongst the community of FCI during 1980-1996. However, in coming 18 years, worker remittances have had a dramatic change in their stature i.e. being onto a composite of more than 50 percent, out of total FCI of USD96.66 billion. FDI also changed in appreciable trend. Nevertheless, foreign debt preserved the state of being at number second in the list of FCI, during the given time period.

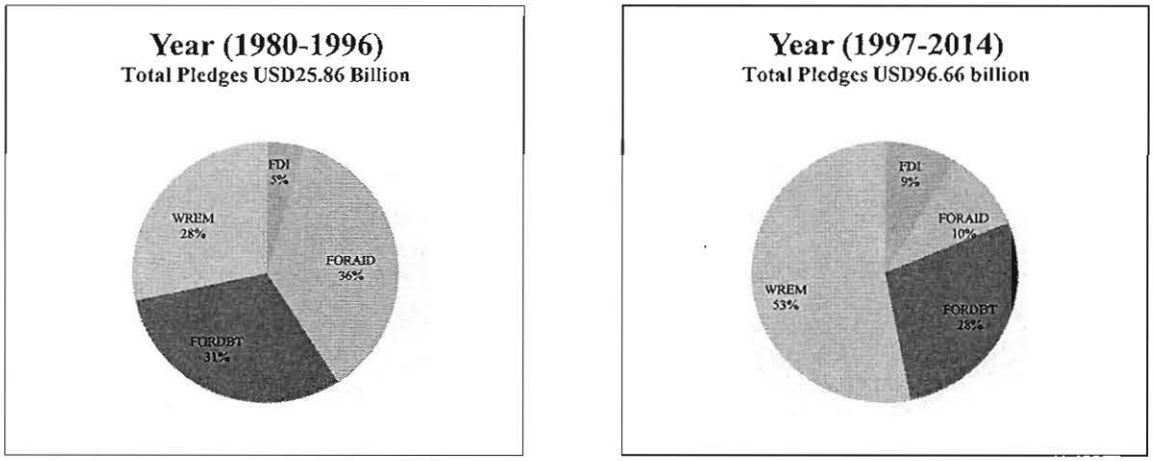


Figure 1.4
Composition of Foreign Capital Inflows to Sri Lanka
Source: Estimation is based on World Bank (2014)

Yearning to spot the sights among apparatuses of FCI and employment in different time bracket in Pakistan, as emerge in Figure 1.5 to Figure 1.9, concludes that employment is well receptive to growth in worker remittance. However, in early 1980's that is 1980-1983, growth in employment, in particular, appeared as responding in the same trend to FCI except against worker remittance in 1983-1984.

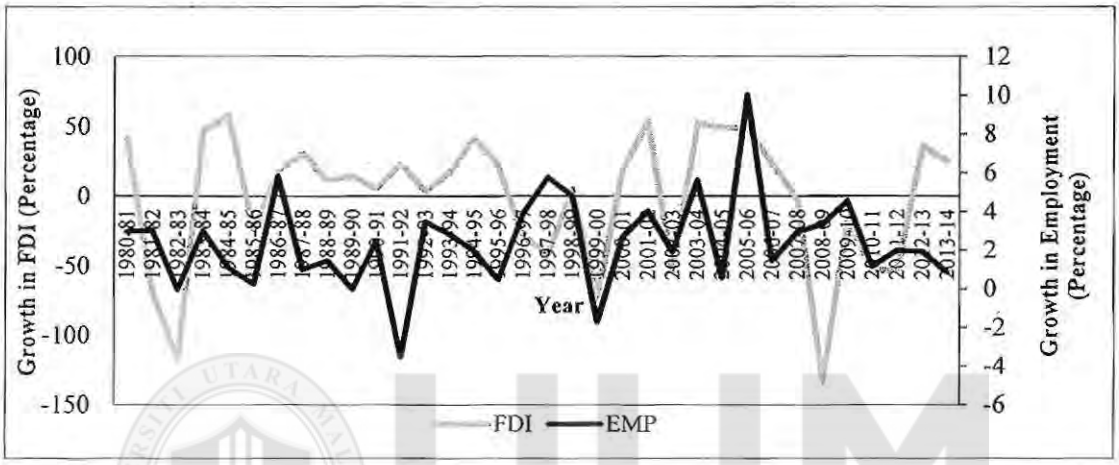


Figure 1.5
Trends of Growth in Employment and Foreign Direct Investment in Pakistan
Source: Estimation is based on World Bank (2014)

Throughout the decade of 1980's, FDI appears to be as the component of FCI that shares similar curls with employment. That's the reason why, in late 1980's, stagnated growth patterns on account of FDI together with that of foreign aid and debt are looked as to emerge same content of whereabouts in employment expansions. In the meantime, effect of gross capital formation, during 1991 to 1992, seems to as hover around with that of employment by way of the same density. Sharp decline in foreign debt during 1996 to 1998 together with fall in FDI on the same footing appears as ineffective to the patterns of employment growth, during the same period, due to the reason that worker remittance went through sharp rise in mid of 1996. This once got paralleled by rise in gross capital formation, after tumbled down during 1989

to 1990 and 1991 to 1994, altogether seems to support the growth pattern of employment to slitter upward during 1995 to 1998.

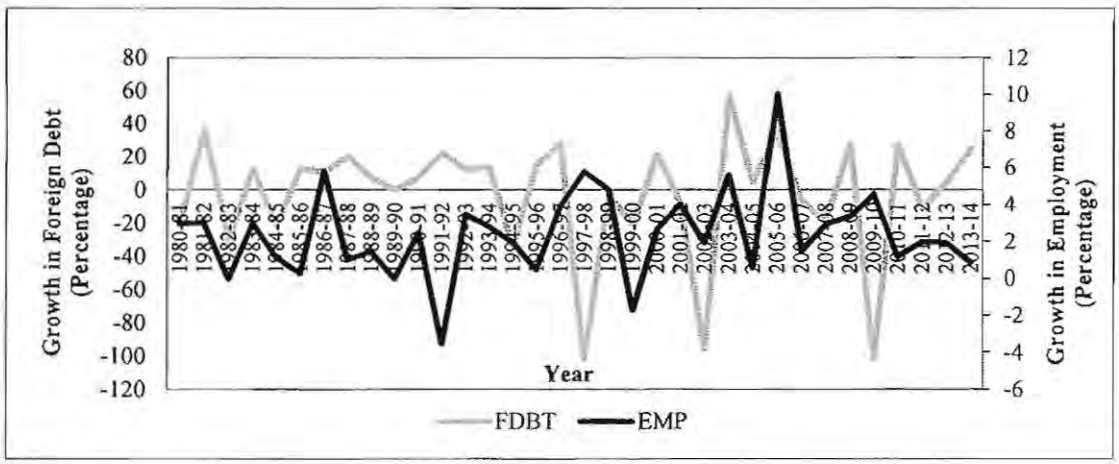


Figure 1.6
Trends of Growth in Employment and Foreign Debt in Pakistan
Source: Estimation is based on World Bank (2014)

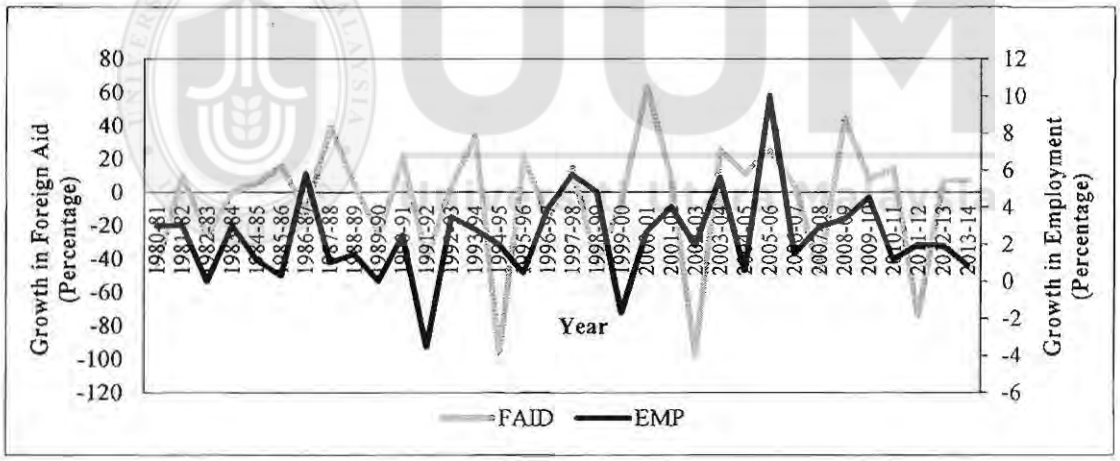


Figure 1.7
Trends of Growth in Employment and Foreign Aid in Pakistan
Source: Estimation is based on World Bank (2014)

In response to peak growth of worker remittance in 2001-2002, gross capital formation in 1999-2000 coupled with FDI by 2000-2002 and of 2003 onwards, though with a sharp fall in foreign aid during the same span, respectively insinuate to push up the employment level to growth rate of 10 percent, in 2005-2006, the highest

level recorded. This peak position of stay is held retained for short time and in future years, gets followed by the downtrend fashion of FCI till 2013-2014, respectively. Foreign debt recorded for fall that started by the mid of 2005-2006, went to the lowest negative growth by 2009-2010. On account of FDI, the downfall appeared in between the midst of 2004 that went onto the extreme negative state in 2008-2009. Since 2003 to 2006, foreign aid was recorded for being into positive growth path, together with gross capital formation up till midst of 2006-2007.

Worker remittance however, remained in positive trend since 2003 and onwards. The bad patch on economy in term of overall downward trend of FCI implies to result in bringing employment growth to its sharp downtrend, but still in positive since 2005 to 2007. However, once gross capital formation, foreign debt, aid, and FDI escaped from the bad patch during 2004 to 2008, had a sharp recovery by mid of 2008-2009. Altogether all of these mount-ups, with-standing by positive growth rate in worker remittance perchance in turning up the employment level hereafter mid of 2010 whereas, later trends of growth in employment till 2013-2014 are apparently in decline.

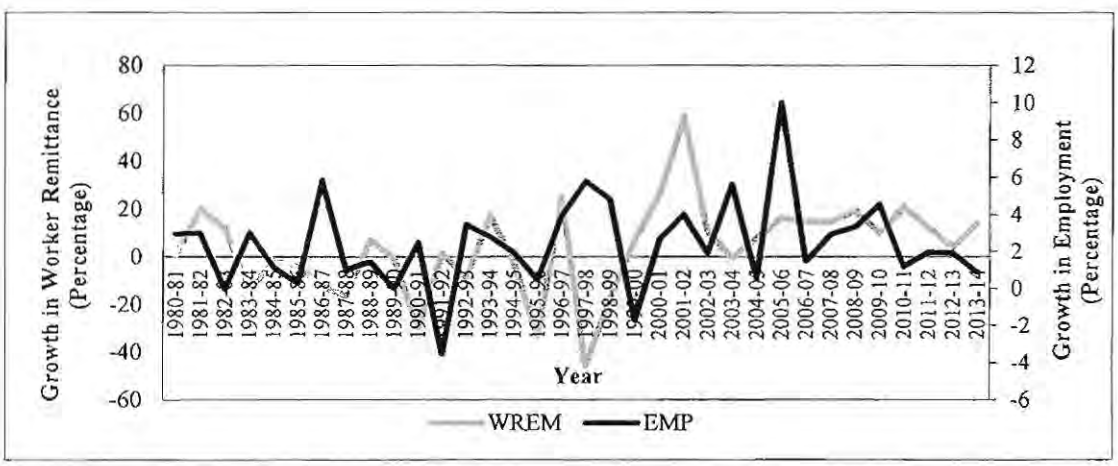


Figure 1.8
Trends of Growth in Employment and Worker Remittance in Pakistan
Source: Estimation is based on World Bank (2014)

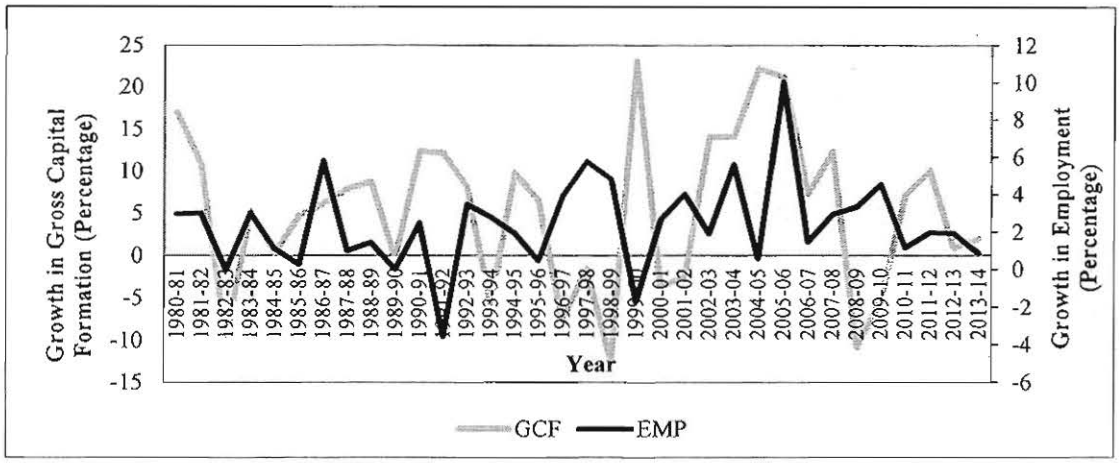


Figure 1.9
Trends of Growth in Employment and Gross Capital Formation in Pakistan
Source: Estimation is based on World Bank (2014)

On account of India, Figure 1.10 to Figure 1.14 show trends and patterns of FCI with employment. It is looked that sharp descend in FDI in early 1980's got compensated by its own in later year i.e. in 1983-1984, but was suggestive to be unabled to shelter falling employment growth patterns back in 1980 to 1987, thought being at reasonable stature. It is due to being deficient of any quantum appraisal on rest of other FCI, mainly during the same era.

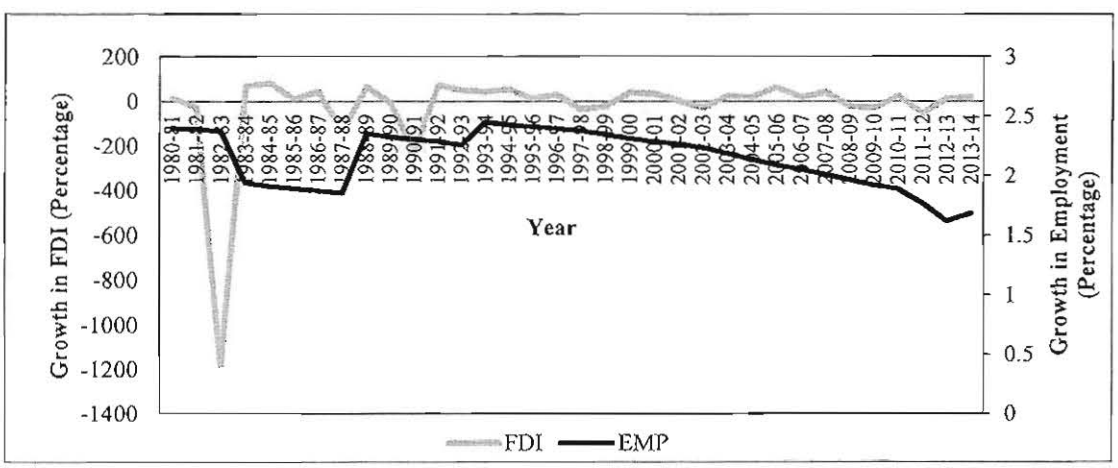


Figure 1.10
Trends of Growth in Employment and Foreign Direct Investment in India
Source: Estimation is based on World Bank (2014)

However, later in 1986-1988, employment seemed as moving parallel with FDI even though worker remittance and foreign aid were in volatile trends. Worker remittance and foreign aid went through a sharp decline in early 1990's. However on the contrary, this fall is professed to be absolutely offset by a rapid high slopped rise in gross capital formation and FDI. This rise accompanied with slight fall in foreign debt seems to enable the growth in employment, in sequel, to remain higher than positive two percent thus enabling to reach the level of 2.4 percent during mid of 1993-1994. FDI was recorded for maximum growth of more than 60 percent in mid of 1991. However, worker remittance went along volatility throughout its endeavors and had three times sharp descent in 1991-1992, 1997-1998 and by mid of 2003-2004, respectively. Nevertheless, fall in FDI that coupled with worker remittance along the mid of 1997-1998, on same pattern, was compensated by growth in gross capital formation here after, since 1999 to 2007.

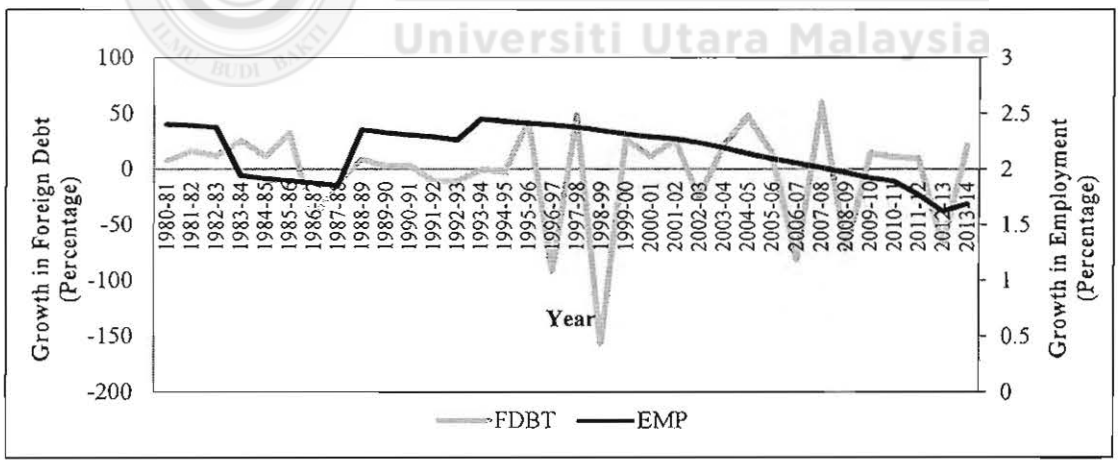


Figure 1.11
Trends of Growth in Employment and Foreign Debt in India

Source: Estimation is based on World Bank (2014)

Foreign debt, having couple of downtrends, had a maximum negative growth recorded in 1998-1999. Foreign aid, on the other end, recorded for depressed growth

and in negative, for couple of years i.e. in early 1990's and 2001-2003, respectively. All of these patterns of discouraging growth trends on account of FCI are intimated to bring up, in consequence, continuous fall in the employment growth rate of India from 2.4 percent, though maximum recorded in 1993-1994, to less than two percent till 2012-2013 with meek rise by 2013-2014. This reveals the fact that even growth in FDI during midst of 2003 to 2008 was insinuated to be unable to push up or either slowdown the rate of fall in employment growth.

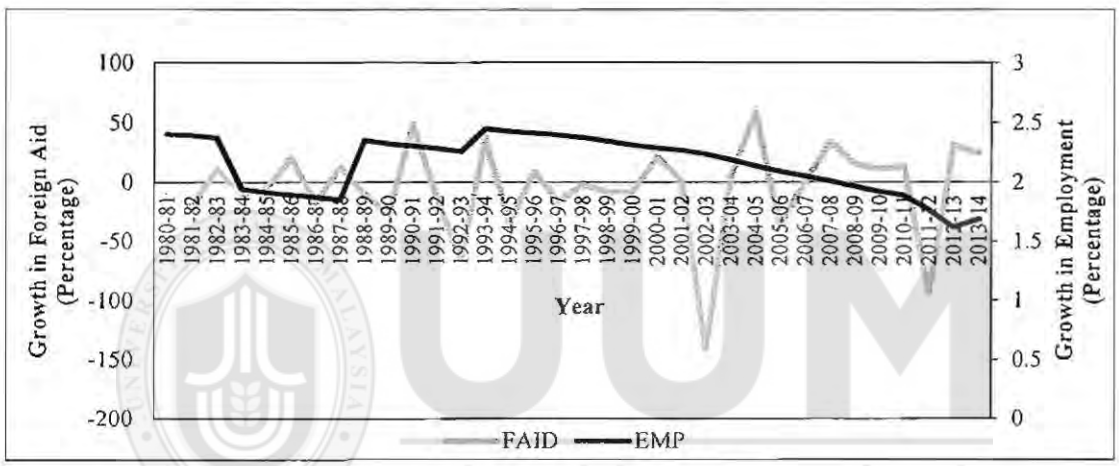


Figure 1.12
Trends of Growth in Employment and Foreign Aid in India
Source: Estimation is based on World Bank (2014)

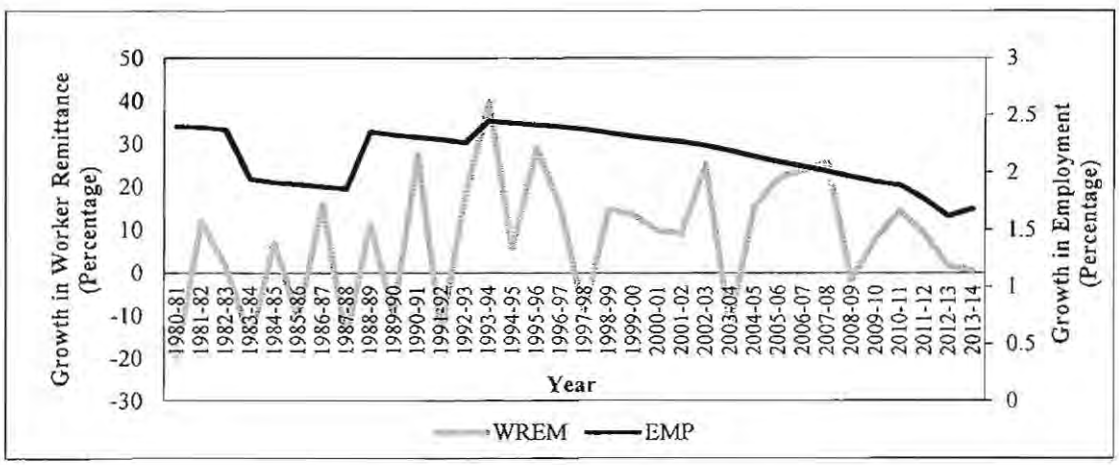


Figure 1.13
Trends of Growth in Employment and Worker Remittance in India
Source: Estimation is based on World Bank (2014)

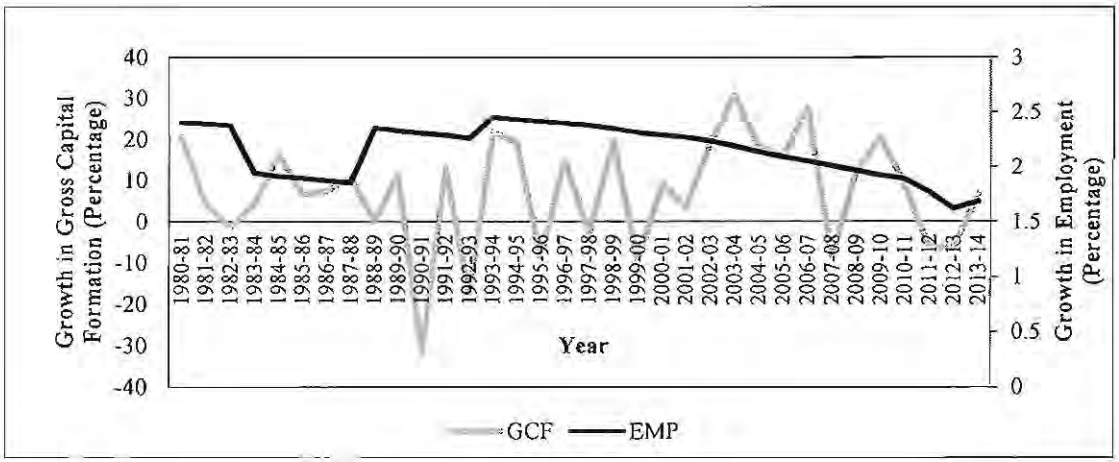


Figure 1.14
Trends of Growth in Employment and Gross Capital Formation in India
Source: Estimation is based on World Bank (2014)

Sighting for the peninsula of connection among components of FCI and employment in Bangladesh, Figure 1.15 to Figure 1.19 make it evident that growth in employment appeared to be as stagnated at less than five percent even though sharp decline emerged on account of FCI, in early 1980's.

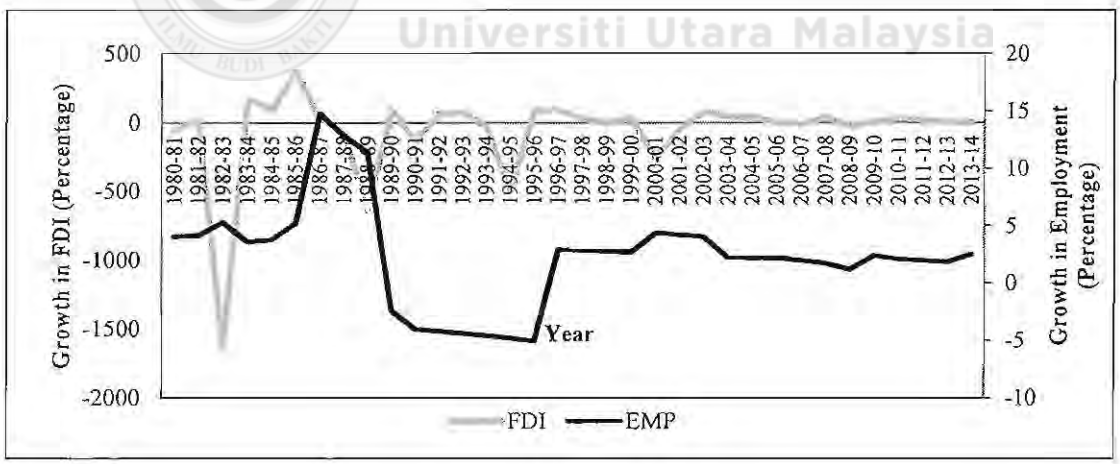


Figure 1.15
Trends of Growth in Employment and Foreign Direct Investment in Bangladesh
Source: Estimation is based on World Bank (2014)

Hereafter, since 1983 to 1986, employment is looked as tracing the upward trends, though for short time span, in FCI, thus reaching its highest peak growth in 1987, i.e. about to 15 percent and started to fall during tail of the epoch of 1980's.

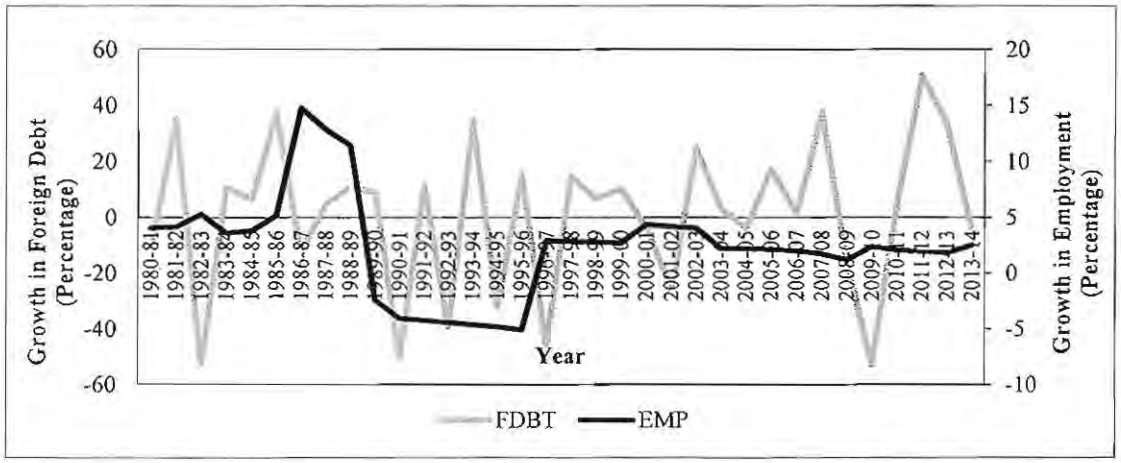


Figure 1.16
Trends of Growth in Employment and Foreign Debt in Bangladesh
Source: Estimation is based on World Bank (2014)

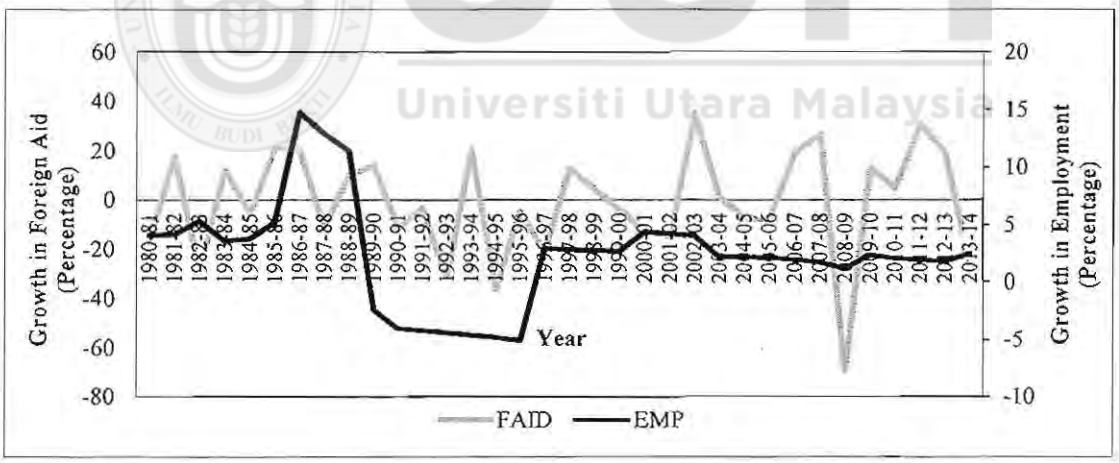


Figure 1.17
Trends of Growth in Employment and Foreign Aid in Bangladesh
Source: Estimation is based on World Bank (2014)

Growth in employment has been negative since from 1989 to 1996 which reached at its extreme low level in 1995-1996. Same trends were found on account of FDI that did slitter from positive growth trend to negative during 1992 to 1995 by

way of its extreme lowest level by mid of 1995. Foreign debt seemed to be setting-off the effects of negative FDI on employment by reducing the speed of fall in the employment during early 1990's. However, growth in worker remittance went up towards the continuous positive but volatile trends, since from 1991 to 2012 and appreciably gained consistency in growth trend from 1991 to 2000, ranging within the boundary of 15 to more than 25 percent growth. This later is inferred to help in pushing up the employment growth into positive range, by 1996-1997 and henceforth.

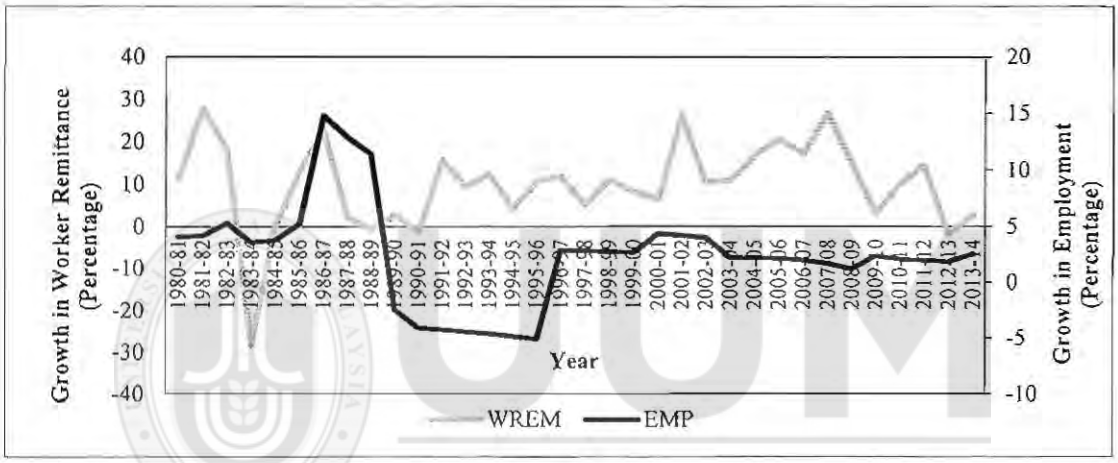


Figure 1.18
Trends of Growth in Employment and Worker Remittance in Bangladesh
Source: Estimation is based on World Bank (2014)

The status of growth on account of foreign aid, for instance, remained depressed, in regular, in the early period of 1990's and in the midst, whereby promptly reached its maximum sharp descent, in negative, by 2008-2009. Gross capital formation remained growing in positive trend that implies to favor the growth in employment to remain positive but in steady and declining trend since 2000 to 2014. Important here is to notice that growth on account of gross capital formation during 2005 to 2013 did not look like to raise employment level hereafters, in consequence of though a steady trend on account of FDI — together with ascend in

growth patterns of foreign debt and aid, specifically in 2008-2012, and expansion in worker remittance by 2009 and onwards.

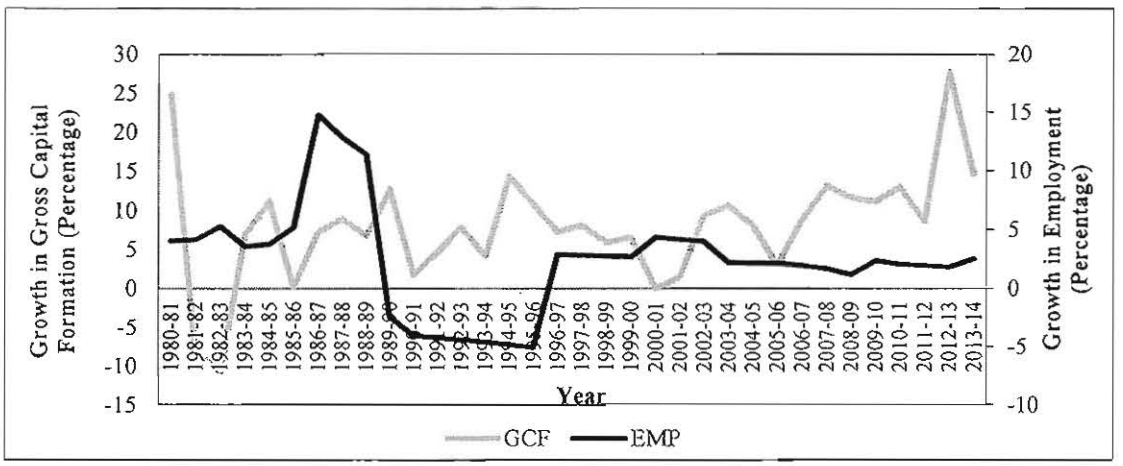


Figure 1.19
Trends of Growth in Employment and Gross Capital Formation in Bangladesh
Source: Estimation is based on World Bank (2014)

Employment growth rate in Sri Lanka was recorded at its highest peak during mid of 1997-1998, i.e. nine percent, as evident in Figure 1.20 to Figure 1.24. This growth was more or less contrary to the trends of FCI during the same period.

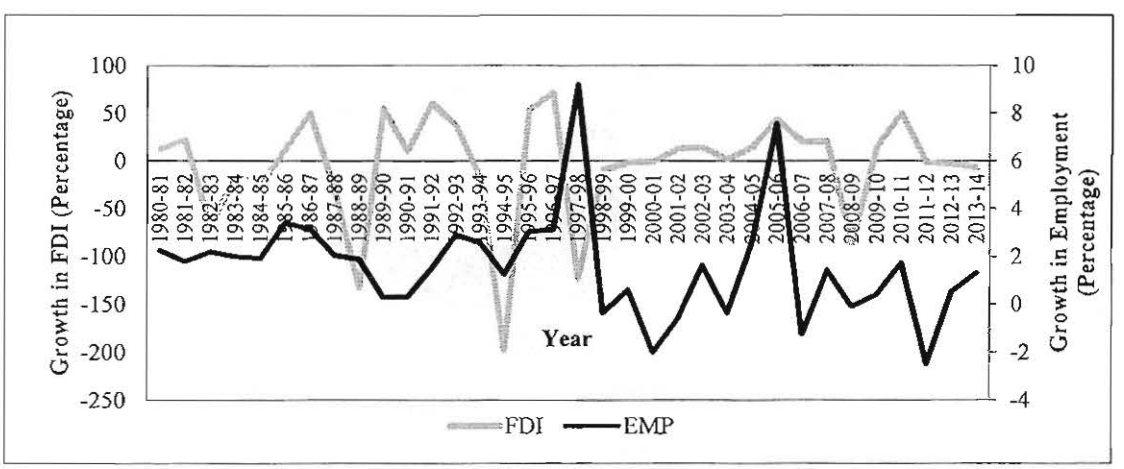


Figure 1.20
Trends of Growth in Employment and Foreign Direct Investment in Sri Lanka
Source: Estimation is based on World Bank (2014)

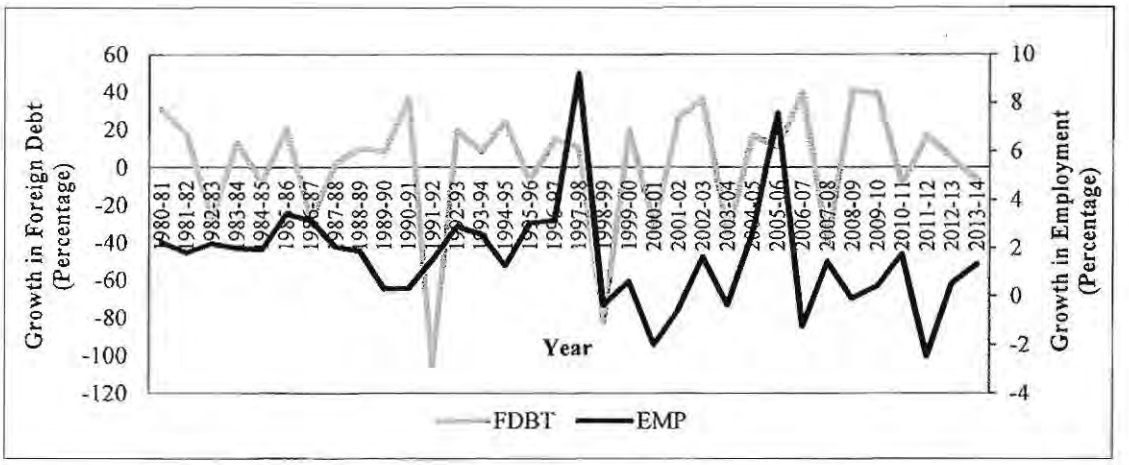


Figure 1.21
Trends of Growth in Employment and Foreign Debt in Sri Lanka
Source: Estimation is based on World Bank (2014)

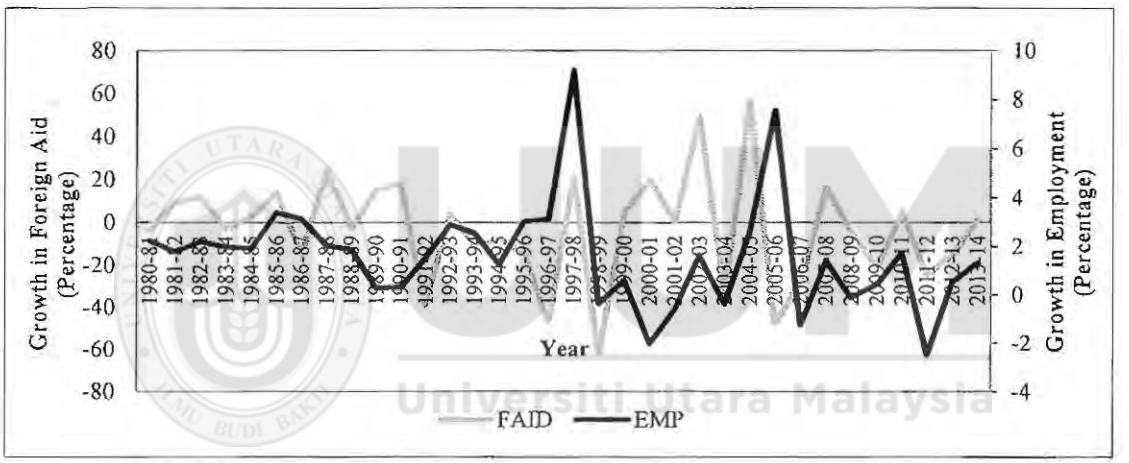


Figure 1.22
Trends of Growth in Employment and Foreign Aid in Sri Lanka
Source: Estimation is based on World Bank (2014)

However, in 1980 to its midst state of arrival, growth in employment had contended proceedings throughout, even though all of FCI, other than foreign aid, went onto jumbled trends except that of FDI and foreign debt those went onto negative rate of growth since 1982-1983. Nevertheless, during 1985 to 1988, growth in employment appeared more eloquent to FDI, worker remittance, and gross capital formation than to other FCI. Apart from all these details, it is observed that employment level was more responsive to the trends of worker remittance together

with FDI in early 1990's when rise in worker remittance together with FDI are suspected to push up the growth of employment during the same epoch. Sharp decline in foreign debt and FDI, in negative range, during mid of 1992 to 1995 together with that of foreign aid and worker remittance also seem to contribute towards the slippage of gross capital formation, hereafter. On the ground of common state of being, FCI have had downtrends during second half of 1990's. All of these facts when squeezed down margin of capital accessibility thus are deemed to lead employment growth to fall sharply from the level higher than eight percent to negative two percent by 2000.

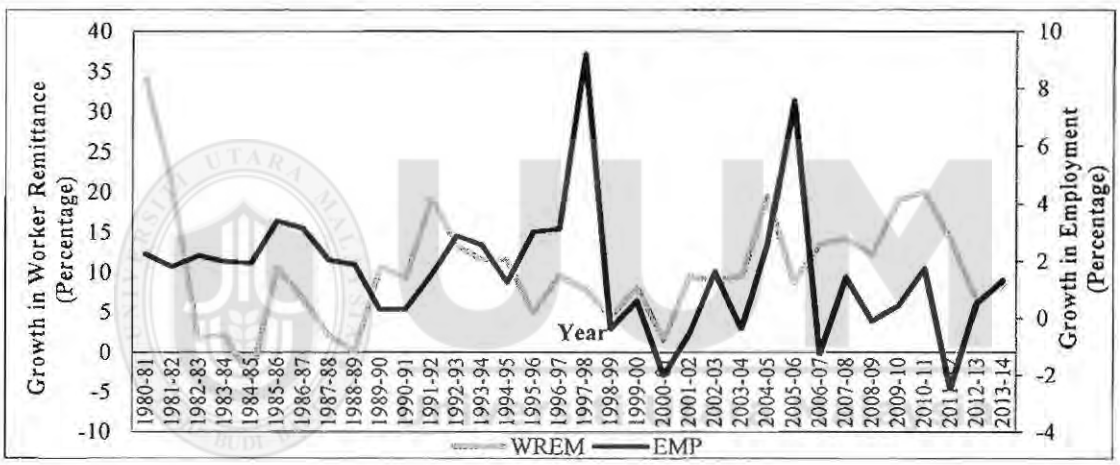


Figure 1.23
Trends of Growth in Employment and Worker Remittance in Sri Lanka
Source: Estimation is based on World Bank (2014)

The level of employment became responsive to foreign aid patterns in early 2000. However, later even rise in worker remittance, gross capital formation during 2002 to 2005 seemed to contribute to the resulting of second time sharp and steep rise in employment growth rate in 2005-2006, though being with depressed state of FDI. Meanwhile, rising trend of foreign debt from 2004 to 2007 together with volatile but continuous positive trend of growth on account of worker remittance imply to contribute in not letting the growth rate of employment to remain in negative till

2010-2011. Nevertheless, in response to fall in FDI during 2007-2008 implies to result in taking employment growth to negative 2.2 percent by 2011-2012. However, this negative rate of growth in employment is again ascribed to have a time to breathe hereafter 2012 that went sliding up till 2014, in sequel of sharp rise in gross capital formation and growing trend of other FCI, back in 2008 to 2011 and in foreign aid by 2012 onwards to 2014, respectively.

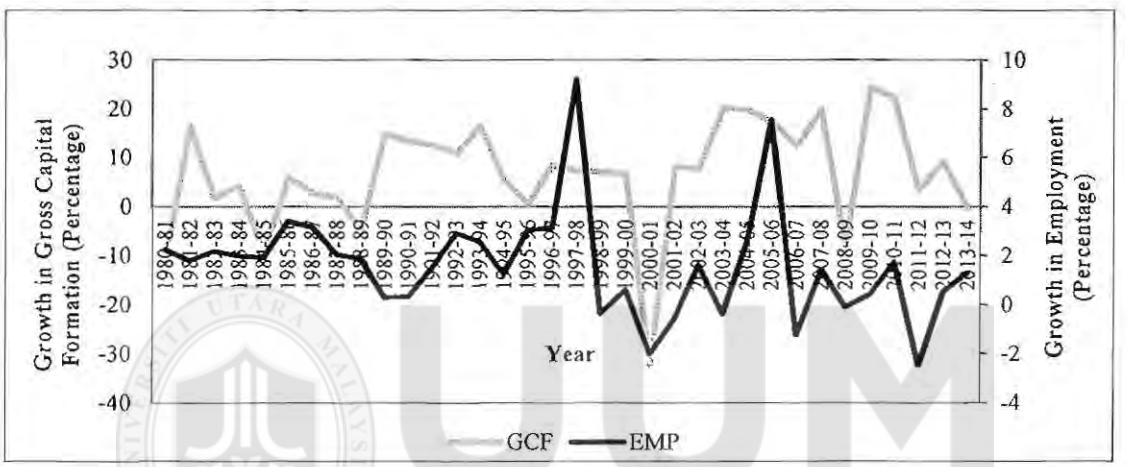


Figure 1.24
Trends of Growth in Employment and Gross Capital Formation in Sri Lanka
Source: Estimation is based on World Bank (2014)

It seems evident that foreign inflows are helpful and useful for a country wherever they flow. For SAC as well, they are of significant weight for instance, as they are for any other developing economy in the row. Today, this region faces political challenges on account of fulfilling the promises that their in-power political parties make in term of delivering their best for resolving macroeconomic face-ups like of internal security threats, increasing public and private investment base, eradication of heavy public debt, uncertain flow of FCI, poverty, and unemployment. Most of the research is brought into being on analyzing the effects of FDI, foreign aid, and debt on economic growth and poverty issues. The need now is to fit-in an in-

depth research on an attempt of investigating the effects of FCI on how do they contribute in accomplishing the goals of raising employment level in their host country.

1.3 Problem Statement

Issue of unemployment is one of the serious problems that the governments of SAC face. These countries try their utmost to get rid of this crisis. It is indeed a matter of concern that if this problem is not addressed in time, it may lead to social revolutions that plea by their own in achieving for their utmost desires and objectives. One of the main causes of unemployment is perhaps rapid growth in population size. Whenever population rises, it leads to increase the overall base of labor force available, for which governments of particularly the developing economies shall have no room to provide jobs to those excessive numbers of people. Whenever there is no thorough insight on population growth and other challenges like of lack of capital availability to initiate new investments, job market always gets unduly pressurized in terms of less capacity of jobs availability to wide range of unemployed labor force. Amongst the SAC, Pakistan bears too high rate of population growth, though because of high rate of fertility. Comparing Pakistan with other SAC, annual population growth rate in Pakistan is 2.1 percent, in India and Bangladesh, it is 1.2 percent. However, Sri Lanka has lowest in the range i.e. 0.8 percent (World Bank, 2016).

When especially the youth fails in capturing of right placed jobs, feels irritated and disappointed that in later times enforces them to provoke evils and crimes. In respect of the macroeconomic quandaries, unemployed labor is the most vital concern that is faced by the economists and indeed the government authorities. It is so because in supplement to its own, the rising unemployment pressures cause other

macroeconomic indicators, too, to be displaced from their proper places, those in previous were the sparkling signs of economic growth and development. The problem of unemployment is a most widely and commonly concerned matter of the developing countries of the world.

The employment statistics of the years i.e. 2011 to 2013 show that the problem of unemployment is severe in SAC. Glance of the statistics shows that in Pakistan, labor force increased by 19.5 percent. On the contrary, employed labor force increased by just 19.3 percent. For India, the state of position is not somewhat different from Pakistan where employment rate rose by just 0.5 percent against of 2.8 percent in corresponding previous years. Sri Lanka and Bangladesh for no doubt are victims of the same scenario. For Sri Lanka, in precise, out of the total labor force available, just 26.2 percent is employed in reward rendering sectors. However, Bangladesh possesses unemployment rate of 24 percent as per the labor force survey of 2010, if statistics of underemployed are added. According to World Bank (2016), rate of unemployment in Bangladesh is 4.5 percent. It is mainly because of a growth rate of employment that fell from 2.0 percent to 1.8 percent during 2010 to 2013.

Looking into the population growth statistics, there come the elements of labor force. Employment opportunities and availability of jobs are the factors that signal whether or not the benefits of economic growth are being accrued to the society? Being employed at a decent work is a key to misplace poverty and other chronic problems in a particular country. However, provisioning of employment opportunities mainly depends upon the available state of infrastructure, technology base, and most importantly the flow of investment capital in term of resources. The statistics on population growth rate and employed labor force draw a clear margin on the employed and unemployed labor force in Pakistan. In Pakistan, since from 2005-2006

to 2014-2015, total labor force increased by 22.08 percent, which is to 59.74 million from that of 50 million. Whereby, participation rate of labor force has fallen from 32.9 to 32.3 percent (2012-2015). The statistics of 2013-2014 make it evident that jobless labor force has increased from 3.58 million to 3.62 million (Ministry of Finance, Government of Pakistan (MFGOP), 2016).

The issue of unemployment has become a global phenomenon. Therefore, countries in South Asia are also harshly affected from this severe problem, as of being underdeveloped economies. It is evident in the economic survey of 2015-2016 that unemployment rate in Pakistan is averaged at 6.03 percent during 2012-2015. This indeed enlightens the issue of unemployment as one of the major macroeconomic problems of a country. Government of Pakistan states that one of the main causes of unemployment is the lack of capital availability that is not enabling the government to speed up the production cycle (MFGOP, 2016).

In case of India, despite an unusual rise in employment rate during 1999-2000 to 2004-2005, increasing from 398.0 million to 457.9 million, i.e. employed labor force rose by 59.9 million whereas, on the same note, labor force increased by 62 million, the speed of rise in employment growth rate fell off in the later period that is 2004-2005 to 2009-2010 (Ministry of Finance, Government of India (MFGOI), 2014). During this period, employment in India was augmented by just 1.10 million. This is the reason why rate of unemployment in 2006-2008 that was 8.16 percent, bounded up to 9.4 percent by 2010 (Ministry of Labor and Employment, Government of India (MLEGOI), 2014). According to Economic Survey of India, 2013-2014, during 2005-2012, the growth in employment was recorded at 0.5 percent as compared to 2.8 percent during 2000-2005. The rate of unemployment in India hovers around 3.8 percent (World Bank, 2016); however, this rate of unemployment is being watched

through an angle of increasing trend. In the year 2011-2012, it rose from 3.5 to 3.6 percent and from 3.7 percent to 3.8 percent during 2013-2014. Government is not satisfied with this rate and thinks of whether rise in unemployment is to reach at the same previous high rate of unemployment (MFGOI, 2014). These worries are because amongst employed labor force, only 21.2 percent have regular salaried jobs. One of the possible reasons for all such fears is the heavy base of the available total labor force. According to MLEGOI (2014), rising joblessness in India due to low business expansion is casting shadow on employment generation. The government of India thinks that this rate of unemployment must be lowered down by taking some significant steps.

On account of Bangladesh, the statistics about rate of unemployment are also not that appreciable. This is a country with growing population but relatively small in size in respect of economy that could cater the labor force searching for the jobs. One of the reasons may be that Bangladesh went through structural changes i.e. shift from agrarian economy base to more industrial and service oriented base. Growth rate of economy is indeed never sufficient in transforming the unemployed labor force into the employed one, thus overall unemployed people increased over time. Bangladesh has been revealed as an economy where rate of rise in labor force outpaced growth in employment (World Bank, 2013).

As per Labor Force Survey, Government of Bangladesh (LFSGOB) of 2014, rate of unemployment is 24 percent, if number of underemployed is added into the rate of total unemployed labor force. Most of the university graduates of five out of 10 are seen unemployed and usually serving at places other than his/her education background. As published in Economic Survey of 2014, issued by Ministry of Finance, Government of Bangladesh (MFGOB), youth labor force that accounts for

36 percent of the total labor force, rose by 7.2 percent but less than half was recorded for being into employed labor force i.e. of just 3.1 percent. Therefore, being underpaid, are unable to meet the sufficient needs of daily life expenditures. In supplement to that, according to World Bank (2016), in Bangladesh, number of people who live below poverty line are 32 percent whereby rate of unemployment is 4.5 percent. It reflects that people who are in job are either engaged with low paid works and/or are underemployed that need some remedy (Yardley, 2013). Noticing such abrupt situations like of political instability and lack of capital to engage further jobs, Bangladesh is experiencing heavy brain drain that is every year, out of five thousand students who go abroad for higher education, less than 20 percent return back to serve their country. Nevertheless, because of high rate of fertility, absolute number of both underemployed and unemployed is increased. In fact, total number of unemployed people is projected to increase till 2014. LFSGOB (2010) indicates that 44.4 percent of the labor force is engaged in low return self-employment, mainly in agriculture. Moreover, it further indicates that 21.8 percent of the labor force works on daily wages and amongst the remaining, 19.7 percent are the unpaid family workers. Government of Bangladesh is in an immense need of flow of investment capital so as to initiate new business(s) that facilitate with new and improved jobs to the available labor force (MFGOB, 2014).

According to Economic Survey of 2013-2014, issued by Ministry of Finance, Government of Sri Lanka (MFGOSL), total labor force available in Sri Lanka is 8,567,225 (20 years and above) however, only 8,237,529 are employed. It brings up a clear picture of 3.8 percent of unsatisfactory rate of unemployment. Whereas according to World Bank (2016), deviating from the records of the MFGOSL, unemployment is being watched at a rising trend i.e. from 4.1 percent during first

quarter of 2014 to 4.5 percent in the second quarter of the same year. As per the report of Department of Census and Statistics, Government of Sri Lanka (2014), rate of unemployment that stood at 3.9 percent during 2011-2012, is recorded at 4.5 percent during 2012-2013. It is so due to 4.1 percent of rise captured in total labor force, however of employed labor force, it rose by 3.7 percent (2012-2013). During the second quarter of fiscal year 2013, rate of unemployment stood by 4.8 percent. Dr. Sarath Amunugama and DEW Gunasekera (Federal Ministers, Government of Sri Lanka) made public statement on the urgent need of attention from the government side in resolving rising unemployment issues (Island Upali News Paper, 09-05-2013). In an industry fields like of mining and quarrying, manufacturing, construction and electricity, gas and steam, and others those are major reward rendering firms; the labor force employed is just of 26.2 percent of the total. It indeed reflects the state of depressed tertiary sector that needs heavy investment of capital for its capacity build up for employing the jobs awaited labor force.

On the other end, when situation of FDI towards Pakistan is viewed, since last two decades, Pakistan pursued investment-friendly economic policy in term of low income taxes, export and import duties, and low interest rate to attract foreign investment. Total foreign investment has reached USD2,979 million during July-April, 2014 compared to USD1,277 million same period in 2013, thus showing an increase of 133.3 percent. FDI has crossed over USD1 billion against USD750.9 million (2014-2016). On account of worker remittance, being vital for developing countries than that of official development assistance and more stable than private investment flows, Pakistan is ranked at seventh largest country of the world in term of the receipt of the remittances (MFGOP, 2016). Pakistan has received worker remittances of USD16.03 billion (July-April) in fiscal year of 2016. On the borrowing

side, development assistance (official) to Pakistan has reached at Rupee (PKR) 197.72 billion during 2014-2015 (Organization for Economic Co-operation and Development (OECD), 2015). Whereas, by 2014-2015, the commitments in terms of foreign economic assistance have reached USD3,220 million. While external debts and liabilities are recorded at USD69.6 billion by March 2016, showing an increase of USD4500 million compared to that of last fiscal year of 2015 (MFGOP, 2016).

In case of India, net flow of capital has fallen sharply from USD92 billion, since 2012-2013 to USD47.9 billion by 2013-2014. This decline is mainly due to a fall in portfolio investment. In term of FDI, USD21.56 billion is injected during 2013-2014. On the other hand, on account of balance of payment base, foreign exchange reserves increased to USD304.2 billion compared with USD292.0 billion during last fiscal year of 2012-2013. Worker remittance flows increase from USD67.6 billion to USD70 billion since from 2012-2014. From March, 2013 to December, 2013, external debt is increased to USD426 billion against USD404.9 billion, foreign aid in terms of development assistance is recorded at USD1.6 billion. On account of FDI, growth of 22.8 percent is registered in fiscal year 2013-2014 as compared to the contraction of 60.9 percent during last fiscal year of 2012-2013. However, by 2013-2014, debt to GDP ratio is documented at 67.72 percent (MFGOI, 2014).

In Bangladesh, FCI increase in irregular trend. However, still remain lower than in Pakistan, India, and Sri Lanka. FDI that remained at USD797.54 million in 2011-2012 have reached to USD806.5 million by 2013-2014. Net foreign aid during first nine months of fiscal year 2014 are reported USD156.83 million. Highest amount of foreign aid came from World Bank that mounted to USD13100 million of which USD12550.7 million is in the form of loans and USD562.3 million in term of major bilateral and multilateral grant. Foreign portfolio investment during 2012-2013 stood

at USD95.53 million against of USD506.31 million in 2011-2012. Since 2012-2013, flow of worker remittance is recorded at 45.62 percent of total exports and 7.76 percent of GDP. During the first nine months of fiscal year 2014, worker remittances are recorded for decline of 6.93 percent. However, total pledges are recorded for USD9206.55 million. Total foreign debt (public and publically guaranteed) has remained at USD24.4 billion during 2013-2014. As per the statistics of Asian Development Bank (2012-2013), debt to GDP ratio, on average, from 1990-2013, was recorded at 32.46 percent. In fiscal year 2014, debt to GDP ratio is reported at 18 percent (MFGOB, 2014).

On account of Sri Lanka, during fiscal year 2013, the government witnessed borrowing of Sri Lankan Rupee (LKR) 1301.2 million. In term of lack of good governance, unaddressed human rights violations, and allegations of corruption by the investors, the economy of USD67 billion failed to achieve the target of FDI of USD2 billion even in two years in a row i.e. 2012-2013. Data released by Central Bank of Sri Lanka (2014) show that FDI flow of USD442 million in first quarter of fiscal year 2014-2015 is recorded. To MFGOSL (2014), total investment is looked forward to reach at 32 percent of the GDP. During 2013-2014, it is 29.7 percent of which; private investments and FDI comprise share of 22.9 percent and of public investments' share, it is 6.8 percent. As reported by Central Bank of Sri Lanka (2014), on average, government debt to GDP ratio is recorded at 91.47 percent from 1990 to 2014 i.e. amounting to USD20 billion. However, in 2014, debt to GDP ratio stands at 78.3 percent with net official development assistance of USD0.48 billion – flow of worker remittance of USD7.0 billion has also helped in edging up Sri Lanka currency value.

After an insight upon the economic situation of SAC, it is clear that on account of FDI, foreign debts, foreign aid, and worker remittance, these flows are

never seen at the same pace rather are seen rising. However, these foreign inflows are indeed important instruments for addressing macroeconomic issues of their recipient country. SAC, like other developing countries, always give heavy weight-age to the prospect of accommodating heavy flow(s) of foreign capital. It is true that all of the FCI do not have a persistent flow all the time to SAC, especially. Yet it is viewed in case of SAC that; if one of the forms of FCI is in depressed state, there is an offset for that in term of a sharp rise in the other component(s) of FCI, at the same time. These FCI being sources of capital for addressing macroeconomic problems, like of unemployment, when seem to work little in diversifying the jobs horizon – signal for an unexplored problem, rather.

It is worth noticing here that tendency of employment growth in all of these four countries of South Asia is never seen the same in according to the flow of foreign capital. This fact makes evident that all of the components of FCI do not rage at same pattern while are looked-in as sources for employment growth. That is why there is no exception now to think further on the relationship between each component of FCI and employment growth as of being dissimilar to one another, rather not to reject it. It is not that hard to realize the same now as the evidences exposed, in Figures 1.5 to Figure 1.24, show that, in short, the responsiveness of employment growth against the volatility on account of FCI is less frequent in India and Bangladesh as compared with Pakistan and Sri Lanka.

Therefore, these countries when appear on taking end of foreign capital must be pre-developed by a belief that which of the component of FCI is more weight-full in ragging down the unemployment pressures rather than of being indifferent on having either of them. That is the reason why the development of clear vision on comparative efficiencies of FCI in against of effecting employment growth in SAC

cannot be kept neglected, even though the internal economic disturbances across the SAC, for no doubt, are not dissimilar.

So the conclusion that is drawn here is that though such FCI trespass to spay the macroeconomic issues of recipient country like of unemployment however, possess no similar statuses in evacuating the unemployment.

1.4 Research Questions

In subsequent to the statement of the problem, describing the scenario of unsatisfactory state of employment level in SAC but the consistent flow of FCI, research questions of the study are designed as to discover that:

i. are the components of FCI differ from each other in effecting the employment level of SAC in short run and long run?

ii. does each genre of FCI is embedded with the bring-up of similar shocks and is a composite of equal variations on the level of employment of SAC?

iii can each of the country in South Asia dispossess similar state of affectation on the trespass of integrated version of FCI on employment level, even the macroeconomic disturbances these countries share are similar to each other?

iv. is there exist any causal relationship between components of FCI and the level of employment of SAC?

1.5 Research Objectives

In sequel of the research questions, the general objective of the research is to discover the effects of FCI on the level of employment of SAC. On this subject, the specific research objectives are:

i. to find out the impact of each component of FCI on the level of employment of SAC in both time horizon(s).

ii. to explore for the state of shocks and variations on the employment level of SAC against each variant of FCI.

iii. to examine that, when intrude altogether, either the collective impact of FCI is embodied with distinct strength and direction of effects towards employment level of each of SAC, under same state of economic hitches that prevail in all the countries.

iv. to discover the existence of causal relationship between the level of employment and the components of FCI at SAC.

1.6 Significance of the Study

FCI and their effects on the country that receives them are viewed by many theoretical and empirical lenses. In most of the empirical studies, the focus is towards either the effects of FCI on poverty or on growth of the host country (Masud & Yontcheva, 2005; Boone, 1996; Goff, 2010; Chaudhry, Malik, & Faridi, 2010). However, a formation of background of the study that helps in examining all of the multifold effects of FCI on economy is still elusive.

The present study is of sound base of fame because as argued by Chenery and Strout (1966) and Obadan (2004) that the effects of foreign capital must be viewed in multifold dimensions. One of the basic issues of bridging saving and investment gap appears to be resolved by such foreign inflows and the other in particular as how these inflows help in addressing the unemployment issues in their recipient country. Thus, as FCI play a significant role in the development process of a country, that is the reason why the studies carried on them are of esteemed importance and of high

caliber in terms of policy recommendations and suggestions that are revealed out of the empirical findings. Indeed these inflows are important for the developing countries (Ozturk & Kalyoncu, 2007). It is false that foreign inflows do not play a contributory role in the development process of developed countries of the world rather whether a country is developed or developing, does attempt to develop measures for the restoration and maintenance of sound macroeconomic base for the continuity and consistency of such vital inflows.

The importance of the study is reflected from the unresolved problem of unemployment in the prevalence of heavy foreign inflows. The anxiousness of the developing countries towards the fetch of so called vital inflows requires an exploration through empirical findings, especially on the basis of cross country comparison among those who have same base of labor force rising statistics but no jobs availability. If SAC are sighted, the studies so far on tracing for the effects of all of FCI on overall employment level of these states have not yet conducted. However, these inflows contribute in increasing the rate of capital formation, accelerate growth i.e. enhance employment also, though indirectly if measure of economic growth is a concern, but still untested in-direct.

This study is initiated to ink a verdict that how FCI, via affecting the rate of flow of capital formation, contribute in respect of widening the horizon of employment in SAC. For sure if yes then there is a need to further take concrete steps to never exacerbate from being host to such inflows. However, if the results appear to be unexpectedly vice versa, then policy makers of these nations must have to think of what to do in chasing for the righteous measure(s) for initiating the process of widening job market.

It is argued by Jodice (1980) that dependency on foreign inflows sometimes leads the countries into severe shock, when due to some reasons such flows are reduced or even stopped. It makes it evident that the study on FCI is indeed significant because of finding for what type of effects do they bring on employment level of SAC. This line of investigation is important because there is an effort required by the host country before and during the time of pledges of foreign capital. If FCI are hosted and utilized without proper planning and homework, the effects of these vital inflows would never turn up to the expectations of the host country.

Study, if initiated for linking FCI with employment is as important for SAC as it is for any other developing or underdeveloped country. For countries in South Asia, this study is supposed to be admirable and unique in its statue because these countries appear in the same region, share similar culture and traditions, and most probably some of the economic problems they face are common amongst them like those of poverty, unemployment, and unstable growth rate. Linking of the term FCI with level of employment especially in SAC is unique in its endeavor. However, it is indeed impossible to deny that some of the empirical studies reflect positive effect of FCI on economic aspects while some highlight their negative effect on the economy of host country (Mohey-ud-din, 2007).

This study is to gauge for either the FCI are that much precious, after their implications are judged, especially for the developing countries, like of SAC, on account of employment generation concerns. This study not only helps in improving the vision on the sequels of FCI on macroeconomic indicators of the host country, particularly the employment status, rather also gives concrete idea on relative effects of different components of FCI on employment level through multiple lenses – thus is to enable SAC for grading FCI suitably. Nevertheless, the study indeed gains

significance in initiating for the chase of effects of such inflows in near and far future, since the time they are pledged in an economy of the host country coupled with the trace of slippage in employment level in response to the unexpected variations in FCI that are seen evident on account of SAC.

In response to the noteworthy effects of foreign inflows, the importance of the studies carried on them always has a greater value. It is due to reason that foreign inflows are in multilateral categories with broad spectrum of their effects on host country. The effects of these multilateral flows are also many fold. If we take FDI, it effects not only the economic growth of a recipient country rather brings up profound effects on other macroeconomic variables, like of unemployment. Foreign aid and debt help in addressing the issues of short fall of saving and investment in the host country. Worker remittances help in reducing poverty and indeed help the recipients to start their own business, either. If worker remittances are saved, rather than consumed or even elsewhere, they would have more favorable effects on the country. All these are thought to be the signs and true reflections of an improvement in employment base of the host country therefore, this study gains significance in empirically inspecting for whether it truly occurs in SAC or not.

The objectives of the study designed for specific flashback on the role of FCI in employment creation bring up large scale of empathy in the existing knowledge footing. The initialization of this study is to improve the thinking of the concerned authorities of SAC to make better decisions regarding preparing themselves for welcoming FCI in the light of the empirical evidences that this study brings forward. So, in the context of settling down the channel among these foreign inflows and the level of employment in SAC, this study is found to be impressive in being a crowd puller in terms of the idea it floats that how does the employment level in SAC is to

respond to their obsession of being host to FCI. Thus, this study meets the requisites of an attempt for incorporating empirical research on finding out the effects of FCI on employment level of these countries.

1.7 Scope of the Study

The scope of a study being carried on exploring the effects of each of FCI – in disaggregated structure on employment in SAC is of greater magnitude. It is not only because unemployment is one of the burning issues of these countries in current times, rather this study gives an insight upon a picture that in fact how do larger capital inflows effect the employment status separately. This study helps SAC to rationally weight FCI in an appropriate way, after it is empirically investigated for how foreign inflows' either category affects the process of job creation in local job market.

This study is framed on the basis of unprecedented combination of independent variables which are the key components of FCI and are for instance vital in their effects on economy of the host country, mainly the level of employment. Complementarily, to meet the research objectives, time series data and advanced econometric techniques that are exerted in the study together with two independent methodologies for country-wise and panel analyses at SAC, thus contribute to the existing body of knowledge as of being entitled as pioneer in the nature of the unmatched amalgamation of analytical technique(s) and combinations of variables at selected countryside. In the realization of all the tactics deemed to workout in order to inculcate sound contribution in existing researches, this study trusts in itself on being privileged on previous researches mainly due to the fact that previous attempt of researches are done on fewer components of FCI being right sided variables and

indeed not for employment altogether. However, this study after realizing that all forms of FCI are the sources of capital thus attempts to incorporate all variants of FCI in evaluating their varied or likely impacts on the level of employment of SAC, either.

1.8 Organization of the Thesis

The study is divided into five sections for the bringing up of the desirable information regarding the proceedings into the areas of designated research those are opted to carry out this present study on.

Chapter One; for instance, is instituted by the facts on the unemployment issues and the importance of flow of foreign capital in SAC, supplemented by the significance and scope of the study together with the statement of the problem. Hereafter, this chapter defines the recommended findings and intentions of study by the mean of research questions and objectives of the study that portray the needs of specific empirical findings on the highlighted issue. In follow-up, Chapter Two in the row puts in plain words for theoretical and empirical statements and suggestions on account of the determinants of employment altogether added-on by the indications concerning how FCI and employment level have had associations in theoretical as well as empirical junctures, in earlier studies. Later, it concludes on underlining the literature gap for strengthening the justification(s) of carrying out this research. Chapter Three in subsequent to the former chapters is to precisely discuss the theoretical and empirical researches that lead to portray conceptual framework. Afterwards, followed by the justifications, operational definitions, measurements, and hypotheses building on all the variables, the model(s) of the present study are developed. Describing the possible data source, last section of the very chapter explains for the methods of analyses those are to help accomplish the objectives of the

study, as described in foremost. To add on, Chapter Four is disembarked for the results and discussions. At the end, Chapter Five is to in-text the conclusions and recommendation(s) of the entire study.

1.9 Conclusion

This chapter has been all about justifying for the notion of unemployment as one of the major macroeconomic problems of a particular country, mainly in SAC. Nevertheless, this chapter has invoked for the initiative that FCI can be used in settling down the issues of unemployment in the country that is on the receiving end of these esteemed inflows. This chapter has drawn an attention to the problem of unemployment on account of SAC and the trends of flows of foreign capital in past and current times. Furthermore, this chapter has given the summarized picture of research questions and objectives that arise after the situations of unsatisfactory conditions of employed labor force are viewed in parallel to the satisfactory flow of FCI to SAC. This chapter has floated a basic idea that is to be figment in an empirical mode of study for whether the FCI are important or are either retired-off in transforming for the downward movements in unemployment level of their host country. This chapter, at the end has briefly explained the proceedings of the study in its forthcoming readings.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Different researchers have contributed in estimating the effects of many fold factors that pose their profound effects on the employment level of a particular country or a region. Theories of employment have contributed in enabling the researchers to feel a desire of examining the ways through which the determinants of employment impinge on the level of employment. Therefore, have made the researchers realize the needs for exercising empirical research(s) that enable in commenting on the theories of employment in positive or either in differing manner. This chapter highlights the results of different empirical researches executed on the doctrine of theories of employment, in first instance. Further, in supplement to the research interest developed in linking FCI with employment level, evidences from theories and empirical research work are discussed that validate the relationship of FCI with the level of employment. This chapter adds to the knowledge about the relationship between FCI and employment in a way of providing highlights of theoretical and empirical studies on the determinants of employment and the liaison between FCI and employment creation in the selected countries.

2.2 Employment and Its Determinants

Employment creation is a macroeconomic phenomenon. The process of employment creation needs an insight on numerous macro and socio-economic factors. The predictions about the determinants of employment, as argued in various theories, are tested by the researchers in different dimensions. Precisely, the problem

of employment creation in any country is subject to its determinants. If the determinants of employment are addressed and adjusted accordingly, surely help the authorities in slipping away the country from the problem of unemployment. In searching for the determinants of employment, there is a need to peep into the theories and empirical studies carried out for highlighting several factors which are indeed diagnosed in a philosophical way to be declared as the determinant(s) of employment.

2.2.1 Theoretical Insight on the Determinants of Employment

The attempt of exploring the theories that impinge the doctrine of employment creation is supposed to remain encompassed with incomplete array of thorough arguments and findings, if Keynesian's "General Theory of Employment, Interest, and Money" (1936) is kept unexplored. Thus, there is no hesitation to start with the Keynesian Theory of Employment titled "General Theory of Employment, Interest, and Money" (1936). In succinct, Keynes was of a view point that employment creation is not something to depend on the wages however, aggregated demand, propensity to consume, the amount of capital, marginal efficiency of capital, and nevertheless the interest rate were the determinants of employment in the equation that spoke for employment being dependent variable (Keynes, 1936).

It is illogical to expect that the theory hovers around limited number of the determinants of employment rather factuality is that the implications and linkages of all of the chosen exogenous variables are quite wide. To start with, supply price of output and proceeds from the labor are made to determine employment level of a particular state. Keynes (1936) was of the argument that if former exceeds from the later, it signals producer to excel in labor hiring. This spark of engaging added labor, when materialized, raises the income of the labor. This later requires investment to be

done in order of accommodating the higher needs of consumption that are spelled out in response to rise in investment-provoked-income, in consequence. Accordingly, Keynes (1936) described that volume of employment was to rely upon the factors that are aggregate supply, the propensity to consume, and nevertheless, the extent and volume of investment. The augmented state of investment if is exclusive of the domestic saving rate, provokes entrepreneur to disturb, indeed in positive, the existing capacity of employment due to rise in effective demand which, in later times, gets aligned with higher output and sufficient rise on account of profit margin of a firm.

The instrument(s) being invested were defined to be the one that include increment of capital equipment, either in terms of fixed, working or liquid capital (Keynes, 1936). Here, if FCI are viewed, there appears none of them that fail to meet the state of affecting such forms of capital increments. According to the theory, this swelled version of investment, though in form of credit that is over and above the level of genuine saving, results in proliferating employment in consequence of increased bank credit. Here, it is worth noticing that the amount of credit that circulates in an economy when increases than that of existing credit base, provokes investors to increase investment that is probably to encounter the demand for products resulted from increased income, which is perhaps higher than the investment hikes. Therefore, in writing equation for employment, it is unfair to undermine the significance of expected consumption and investment; as noticing that both of the two depend on one another. The crux of the theory is that consumption is what employment depends upon and investment is a key determinant of income upon which consumption rests. However, according to Keynes (1936), though investment as argued earlier is of multifold dimensions still cannot be a successful stimulator of

employment growth, if lacks with the company of favorable (continual) consumption level.

There was an attempt made by Lerner (1967) in exploring the determinant of employment in "Employment Theory and Employment Policy". The study came up with the facts, as argued by Keynes (1936), that full employment level can be maintained by the avoidance of inflation. Employment creation is doable by effectively controlling the demand i.e. neither too less nor too high, should it be. Sometimes excessive spending done, in term of too much supply of money, leads to an increase in the overall access towards the goods and services and thus brings hikes in investment level. Whereby, all these measures lead to excessive demand. However, if this happens persistently, it causes to deviate from the aim of both of the avoidance of inflation and of unemployment abolition (Lerner, 1967).

According to Lerner (1967) downward trend in the wages, as denied by Keynes (1936), was not to cure the problem of unemployment. In this respect, the virtue of cost inflation, administrated inflation, and markup inflation received much more attention. Producers in respect of the rise in wages, increase the prices which in turn motivate workers to again shout for the wage rise. This spiral continues that keeps on promoting inflation, which is undeniably negative in response to job creation. However, propensity to consume is no doubt a strong determinant of employment, like Keynes (1936) thought and published in his theory paper. In context of balance of payment, indeed there is some association with the level of employment (in terms of disinflation of the prices and later as to commencing boost in overall exports and employment).

Nevertheless, Lerner (1967) suggested that an increase in the level of unemployment reduces the immediate need of buying the goods because of low

purchasing power. This, in-consequence never makes producers feel comfortable in throwing a call for the job opening. Extending the notion to external trade, a reliable improvement on account of reducing the quantity of imported goods demand is made possible by restricting the exports of other countries, mainly at the cost of unemployment. Apart from this, higher and higher adjustments in markups, in parallel to inflation, are settled that offset any gain to the seller, comparing to the previous situation of low markups. This justifies low level of employment, in present, as of preventing hyperinflation in future (Lerner, 1967).

In conclusion, Lerner (1967) stated that in the free market economies, in order of restoring full employment, the authorities (governments) need not to take help of fiscal and monetary adjustments. Rather the full employment is restored in response to the rise and fall of the prices as to make the supply and demand equal. When a country gets habitual of inflation, the administration induces measures of automatic adjustment of wages, pension, and rents. This reduces the need for the public compensation by the people (Lerner, 1967).

Pissarides (2000) presented the "Equilibrium Unemployment Theory" developed on the central idea that the hiring of the labor is decentralized activity of a particular economy. Thus, the notion shows that the internal economic situation is more to affect the level of employment than that of the external factors. Pissarides (2000) argued that it is indeed costly and time consuming for both the workers to be at right place and off-course for the firms to find suitable person that fits for the job. As articulated by Kahn (1931) and mentioned by Keynes (1936), that as new capital comes and generates economic activity in a particular economy, the job seekers as well as the firms become uncertain about the settlement of good workers to the firms who need them and good jobs for the unemployed (job-seekers) because the

objectives of employees are of getting good job, whereby firms need good people at cheap wage. Firms and labor force wonder to decide either to accept the available offer or should wait for the better one. Nevertheless, it is felt that sometimes either of the two (firms and job-seekers) spend money by their own for getting information regarding the place that suits their paradoxical objective (Pissarides, 2000).

Furthermore, Pissarides (2000), from another perspective, claimed that when capital, in value addition, enters into the economy, it is not only the unemployed people that find for the new incentives and job positions rather on-the-job too. All this is possible if a country engages in the trade and thereby proliferate its level of production. Thus, the process of the creation of new jobs becomes only possible when specialization is gained in the respective field, all together with accumulated capital. Job shock occurs when there comes structural shifts in term of changes in; the demand, production cost, taste, and for sure technology.

Glance of theories of employment enables to find the notion that real wages are the main determinant in enabling the workers to decide for either go for work now or later (Barro, 1981; Lucas & Rapping, 1969). The "Intertemporal Substitution and the Business Cycle" theory suggested that if workers believe for the fact that real wages are depressed temporarily and surely would rise in future, then they are more inclined towards leisure in present time at the promise of more hard work in future. In complement to that, the same is the feeling in context of temporarily lower real interest rates. Here low real interest rate means that the current wage income of the labor could not be transferred at advantageous rate in future. The implications of these aspirations lead to a cyclical swing to employment, taste, technologies, and factor endowments. The theory, unlike spelled out by Lerner (1967), for instance, underpins fiscal and monetary policies as a tool for the restoration of the stability in the

disordered economy, on account of unemployment, though governments do not feel interest in doing so for the reason that such steps take the people away from adjusting for optimal responses against the external shocks.

The "Real Business Cycle Theory", based on "Intertemporal Substitution and the Business Cycle" theory of Barro (1981), was built on identifying the technological shocks being the major determinant of macroeconomic fluctuation. Thus, arguing that shock to level of employment is not far from the technological changes. In this scenario, the individuals who are perfectly informed about the future technology and market changes repel to the technology shocks in term of substituting labor demand and supply, level of consumption, and the leisure time. The theory declares technology shock in positively and recessionary shocks as negative in transforming effects on the employment and other macroeconomic stature of a country. Apart from this, the theory is never complete if there is not asked anything about the change of taste that is related to create a linkage among real wage rate and consumption level, like of Pissarides (2000). For instance, Barro (1981), like Lucas and Rapping (1969), argued that fall in the real wages increases the level of employment. On the contrary, it reduces the level of consumption and increases the leisure preferences.

In case of recession, the economy is to confront with two problems at one and the same time. That is the deficiency in labor and the fall in demand for a product. In such situations, demand for the products is low because of unemployment. The activities in labor and product market produce wage-price sluggishness. Here, product prices act as determinant of employment i.e. fall in the demand for product reduces the demand for the labor. In that case, Keynes (1936) argued that the spending of money (public investment) develops a platform that helps in hiring for the unemployed labor. The government expenditure being factor for raising the demand

for labor, in turn helps generating the demand for product that is coupled with reduction in tax on firms. Thus, tax cut and acceleration in public expenditure are the factors that help in stimulating the demand for the job-seekers (Keynes, 1936).

Nevertheless, the product prices and aggregate demand indeed gain sufficient rational in term of affecting the demand for the work force available. Depressed prices of products and low aggregate demand in market, in accomplishing to Keynes's verdict, do not initiate the producers to dare for hiring the available labor force (Barro & Grossman, 1976; Muellbauer & Portes, 1978; Malinvaud, 1977; Mankiw, 1985; Akerlof & Yellen, 1985; Blanchard, 1983; Taylor, 1979; Calvo, 1983).

2.2.2 Empirical View of the Determinants of Employment

As highlighted by Lerner (1967) that inflation is a factor that determines the level of employment, this level of inflation increases in response to too much of money supply in an economy. In previous, the researchers catered for the indirect effect of inflation on the level of employment. The researches were based on strong realization that not only does the rate of inflation directly affect level of employment rather it effect the level of FDI, in first instance, which later possesses the effects, in either direction on the level of employment. However, effects of FDI on employment were traced out by Braunstein and Epstein (2002), Jayaraman and Singh (2007), Habib and Sarwar (2013), Rizvi and Nishat (2009), Akcoraoglu and Acikgoz (2011), Inekwe (2013), Onimisi (2014), and Jude and Silaghi (2016).

FDI leads to the economic growth and growth rate of the economy leads to increase the level of employment (Habib & Sarwar, 2013). Now the factor(s), like inflation, that affect the level of employment, does affect FDI also and in turn the level of employment. It means that the employment level not only is directly affected

by the inflation, rather indirectly also through the channel of FDI and economic growth. FDI is indeed one of the stimulators for boosting up the domestic level of employment (Bekhet & Mugableh, 2013). FDI not only does affect the propensity to consume (Keynes' 1936 version of increase in aggregate demand-led-employment) rather is also a cause of value addition in the level of domestic capital.

However, empirical study of Mehmood and Faridi (2013) showed that rate of inflation positively affected the flow of FDI in Pakistan. As FDI is linked with the employment creation, as studied by Braunstein and Epstein (2002), Jenkins (2006), Jayaraman and Singh (2007), Habib and Sarwar (2013), Brincikova and Darmo (2014), and Akcoraoglu and Acikgoz (2011), here-from it relates to affect the level of employment also, as did so by Lerner (1967). So, the factors that affect the flow of FDI are the factors that affect the level of employment (Mehmood & Faridi, 2013; Lerner, 1967). The empirical research of Khan and Khattak (2009) and Mehmood and Faridi (2013) found that trade openness positively affected FDI. Now, linking the findings of Khan and Khattak (2009) and Mehmood and Faridi (2013) with the employment theory of Lerner (1967) which claimed that exports growth leads to increase employment, in line with the notion that the factors that affect FDI do affect the level of employment, the results are transformed into an information that trade openness positively affect employment, as found by (Malik *et al.*, 2011). So, same positive effects, while looking into exports growth and employment, were found by (Akcoraoglu & Acikgoz, 2011). However, internal economic situations, the macro-economic variables, indicated by Pissarides (2000), like that of external debt, domestic investment, GDP, returns on investment, do affect the level of employment.

Tracing out the macro-economic variables (internal factors) and their effects on employment like of returns on investment, GDP, domestic investment, unlike

external debts, positively affect FDI. In transforming the results to the linkage with the doctrine of employment theories by Lerner (1967) and Pissarides (2000), the relationship is built as FDI-growth-employment, these variables affect the level of employment, perchance in the same direction (Jayaraman & Singh, 2007; Rizvi & Nishat, 2009; Akcoraoglu & Acikgoz, 2011; Habib & Sarwar, 2013).

Lerner (1967), Barro (1981), and Lucas and Rapping (1969), unlike Keynes (1936) stressed in their employment theories that wage rate effects the level of employment. The relationship of wages and employment was tested by Jenkins (2006) in his empirical research, executed on Vietnam. The study focused on investigating for the effects of wages on the level of employment. The results of the study found negative relationship between the wage rise and the level the employment. The concern that was raised by Lerner (1967) in his "Employment Theory and Employment Policy" about rising level of unemployment that tends to reduce the demand for the imported goods and in supplement to that disinflation of prices that help in excelling the exports of a country as well as the level of employment was tested by Akcoraoglu and Acikgoz (2011) in exploring for the effects of export growth on employment.

Akcoraoglu and Acikgoz (2011) employed technique of Autoregressive Distributed Lag (ARDL) and Granger causality test in order to analyze the direction, short run, and long run relationship between the variables. The study found that exports have a positive effect on the employment level, thus confirmed the theoretical prediction of Lerner (1967). Not only did the study by Akcoraoglu and Acikgoz (2011) capture positive and significant effect of export growth on employment rather found, via Granger causality test, short run and long run causality between level of employment and export growth. However, insignificant relationship was found

between imports and employment in long run but was significantly affecting level of employment in short run and in positive. Study further found real wages to have insignificant effect on the level of employment on account of long run causality (Akcoraoglu & Acikgoz, 2011).

Testing for the relationship with the rate of literacy, in context of being an internal economic factor effecting level of employment, Malik *et al.* (2011) used data from 1973 to 2009 on Pakistan. The study used the analytical technique of Johansen and Juselius (1990) co-integration test along with Error Correction Model (ECM) to evaluate the short run and long run dynamics among the variables. The study brought up the conclusion that rate of literacy as negatively affecting the level of employment. The data used for computing rate of literacy included people as literate those who were just capable of reading and writing their names. This was the justification of rate of literacy as posing negative effects on the level of employment (Malik *et al.*, 2011).

Imran, Sial, and Zaman (2013) brought up the study as an attempt of measuring the relationship of gross fixed capital formation and the level of employment. Volume of capital that affects the level of employment was indicated by Pissarides (2000) and Barro (1981). The study captured data sample of 33 years i.e. ranging from 1977 to 2010. The study was in line with the view of Kahn (1931), Barro (1981), and Pissarides (2000) who argued that new capital induces a change in an employment base of the recipient country that implicates into the creation of new jobs for the job-seekers and new opportunities for on-job labor. So, measuring the effects of capital flight towards country that for instance affects the rate of gross fixed capital formation, the results of the study of Imran *et al.* (2013) were aimed to publish information regarding the direction of change in the level of employment in response to the gross fixed capital formation. The outcome of the use of Johansen and Juselius

(1990) technique of co-integration showed that the direction of effect of gross fixed capital formation on the level of employment was positive, as was sighted earlier by Awan, Khan, and Zaman, (2010) of the effect of the same, however on FDI.

Snower (1994) floated the notion that different policies induced by the state for addressing unemployment are based on several theories of unemployment, in because of the confidence and belief of researchers on those theories of employment. However, before introducing any policy that is to address the problem of unemployment pertaining in a particular economy, there must be some empirical evidence available for either the results of certain policies, those were brought into play in past, turned the problem to get addressed or elsewhere. If the problem of unemployment is due to the market failure(s) like of; inflation, unusual changes in wages, low propensity to consume, balance of payment disorders, high markups, improper utilization of capital – either domestic and or foreign (Lerner, 1967; Pissarides, 2000), then this is for sure a call for the introduction of some government policies. However, the requirements here are not just the policies of the government rather of what type of policies. While curing the market failure may cause the positive effects of market perfection offset by the government failures in response to inefficient policies. Thus, the empirically observed predictive power of the underlying theories of employment must be analyzed before suggesting for any measure (Snower, 1994).

2.3 Cataloging of Foreign Capital Inflows

An ease of accessibility of investment capital is generally an utmost need to settle down the abrupt macroeconomic conditions. Economic growth patterns those are the indicators of current and future state of economic health are, for no doubt have

to have a backing of fluent flow of capital availability. Not only does economic growth, rather even the level of employment of a particular country has to have no permanent standings at a particular state of position unless requisites of capital are fulfilled. Thus, in case of chasing for the meet-up of investment needs, countries worry in exploring for the sources of capital accessibilities. There from it comes the role of internal and external sources of capital. Internal sources are not that much undefined as external source are. Hence, for a respective country, there is always a need to clearly identify for the channels of external capital i.e. FCI.

FCI, if are tended to be categorized, basing upon the argument of Obadan (2004) as of being into multiple forms, may be classified into FDI, foreign debt, foreign aid, and worker remittance, in compliance with the theoretical predictions.

According to Hertner and Jones (1986), classifying FCI, FDI is a prompt form of foreign capital that is in fact a source of enhancing the financial assets of its heir. It is this category of FCI that enables the recipient country to meet the production targets (Dicken, 1986). However, effects of FDI on employment level are seen in different directions. Meaning that, some contemplated it to be negative in relation to employment like Sunkel (1973), Furtado (1974), Kay (1989), and Onimisi (2014), opposite to Borensztein, De Gregorio, and Lee (1998), and Bekhet and Mugableh (2013). However, regardless of either outline of effects of FDI, it is conceivably a source of gaining specialization in business by the host country (MacDougall, 1960).

Looking into the seek-out progress which countries go through in locating categories of FCI that help them meeting the needs of capital, there comes the impression of foreign debt. Adam and O' Connell (1999) argued that foreign debt is one of the categories of foreign capital that sufficiently enhances the capital availability to a particular economy. This vital source of foreign capital via increasing

speed of capital accumulation enables the recipient of the same to get poverty and unemployment issues overcome (Harris & Todaro, 1970; Shrewsbury, 1974), improves infrastructure (Little & Mirrlees, 1974), and to Akramov (2006), if being into the form of agriculture-tied-debt, improves agriculture productivity through mechanization (International Labor Organization (ILO), 1973).

Categorizing FCI in order to have a clear picture of the channels that facilitate the recipient country in settling down problems of capital deficiency and increasing saving and investment, foreign aid appears to be as useful source of accelerating flow of overall capital base (Friedman, 1995; Little & Mirrlees, 1974; Page & Söderbom, 2015). If and as the process of job creation, easing-off of taxation system to raise-up the aggregate demand which further helps in excelling investment activity, fighting against chronic poverty, issues of unemployment, and nevertheless economic growth are the important segments of economy that need for capital availability, in this respect, the thirst of capital of particular economy to let these intents realized is fulfilled by foreign aid as of being imperative among the categories of foreign capital (Isse, 1988; Adam & O' Connell, 1999; ILO, 1973; Little & Mirrlees, 1974; Harris & Todaro, 1970; Juselius, Møller, & Tarp, 2014).

In supplement to FDI, foreign debt, and foreign aid, worker remittance is also entitled as a useful category of FCI for its host country (Stark & Bloom, 1985). It is this form of foreign capital that hits unemployment through increase in consumption expenditure which results due to augmentation in holding of money by the recipient and non-recipients of remittance income as of being interdependent on each other due to prevailing in same society at a particular point in time. Thus, the swell up of consumption expenditure acts to engine the low level of investment activity that prevails in an economy at present, to eventually have gradual amplification in its

volume which later helps in proliferating employment (Keynes, 1936; Conway, 1992; Amjad, 1986). Herein, Imai, Gaiha, Ali, and Kaicker, (2014) assembled that remittances increase the flow of capital within the recipient state and thus contribute to engage the macroeconomic stature towards better performance, reduce poverty, and are thereby beneficial to an economic growth. Hence, as likely to the orientation of capital that is intrinsic to foreign aid, worker remittances also fall in the same fraternity of FCI that breed economic growth process by making the base of capital smoothened (Lewis, 1954; Dunning & Lundan, 2008; Imai *et al.*, 2014).

2.4 Connection between Foreign Capital Inflows and Employment

For the countries of 21st century, whether developing or are developed, it is mandatory to have an active attempt of stepping forward towards globalization which is a prompt mean of flow of capital across the national frontiers. In the subject matter of economics, the importance of capital (money) is vital as of a belief that there is no concept of economic development without it. When countries open their national frontiers and step-up into the race of globalization, this forward linkage, in sequel, brings up the flow of foreign capital from one country to the other. Amongst the talks about capital needs, FCI are categorized into many forms that help their host country to address the issues of economy like of depressed economic growth, poverty, unemployment, and others. The creation of employment has a direct linkage with the financial easement. If a country has got the finances, surely can offset the problem of job-seekers in terms of offering them new and good jobs through the forward linkage i.e. FDI and by investing other components of FCI by herself in different fields of businesses that are lacked behind due to the deficiency of capital.

2.4.1 Theoretical Linkage of Foreign Capital Inflows and Employment

Forward linkage in term of opening up the national frontiers for the amicable flow of foreign capital benefits the practicing countries. This was posited earlier by Ricardo (1817), about 200 years before. The practice of being globalized in term of adhering of FCI makes the participating countries to grow in term of gaining the benefits from global trade, flow of worker remittance, flow of capital rendered on conditional terms like foreign aid, debt, and most importantly in context of FDI. On macroeconomic level, these inflows help in the fields of employment, education and training (Martin, 2006).

In view of Ricardo (1817) "Comparative Advantage Theory", countries that participate in trade are helped in growing their Gross National Product (GNP). Nevertheless, growth of GNP is not something separate from employment creation. The individuals and organizations practice global trade that is the practice of acquiring goods and services from entity that is located in other geographical place. This helps in outsourcing of skilled labor force away from what is available within a country. This activity of liberalization (in term of opening of national frontiers) helps in generating the capacity for employment not only within the country rather even outside the national frontiers (Martin, 2006).

Ball, McCulloch, Frantz, Geringer, and Minor (2004) affirmed that in consequence of the FCI, it resulted in the creation of more jobs in the United States (US). There is a notion that whether the benefits of job opening in result of the trade liberalization are same in nature as are in sequel of other FCI. Hill (2003) argued that in consequence of the flow of foreign capital, the results in shape of the transfer of the knowledge and the growth in the employment rate are usual. However, sometimes the

perceived cost of FCI in term of job loss or deteriorated balance of payment appears as offsetting the expected benefits from FCI (Hill, 2003).

In consequence of flow of foreign capital to US from Japan, it helped in accelerating trade growth and GNP (Pantulu & Poon, 2003). This growth is never possible without raising level of employment. A linear macroeconomic model can successfully describe a relationship of FCI and economic growth and improvement in other macroeconomic variables. However, linear modeling cannot be developed here. It may be because, if developed, it may involve complex theory that is perhaps derived from physical science or that would either involve mathematics of higher-order (Ohmae, 2005).

To be further elaborative, Hill (2003) expressed a view point that, in translation to FDI, the country on outward FDI bears two costs, firstly in term of the balance of payments (deficits in respect of high imports of possibly raw material or intermediate goods) and secondly in term of the labor displacement (downsizing) for the motive of cost-cuts. The literature indicates the important linkage between FCI and their effects on the macroeconomic aspects, as theoretically predicted and acknowledged by Sowell (2000) and Wessels (2000), that FCI are always positive in trend while inculcating effects on the employment level of the recipient country. For ultimate reason, FCI settle a trend of improving the level of employment. Such information, imparted in the theories as well as through empirical studies, out weight the initiative that some governments may think to take in evading FCI by observing the doctrines of the theoretical perspectives and outcomes of empirical studies.

According to United Nations' World Investment Prospect Survey (2014), FCI round the globe are increasing at an accelerating pace over the last few years, particularly after a slowdown in flow of foreign capital to the developing countries

hereafter the era of 1980's. The developing countries of the world rely upon them for expanding their economy base and addressing up of their economic issues (Khawar, 1997). Defining one of the components of FCI, the FDI is of immense importance that controls the companies outside the national borders by parent country (head quarter). This is referred to capital (machinery, equipment, and plant) and physical assets which are involved in the transfer of the financial asset from one country to the next (Hertner & Jones, 1986).

Investments are done in the countries where the labor is found abundant and is perhaps cheap in price. This altogether with the sound macroeconomic base of aspirant country motivate the foreign investors to let the tasks of production accomplished through cheap labor (Dicken, 1986). Sunkel (1973) argued that the flow of investment capital in attempt for remaining stick to the capital intensive techniques adversely affects the overall level of consumption in an economy, where it travels, thus, making the consumption of the goods and services more confined to the upper middle class. This element of command that exists among the foreign investors poses undue burdens on the host country in term of forceful adaptation of foreign technology, financing, equipment to the industry, and most promptly takes the local industry away from throwing incentive of more jobs to the available labor force in host country.

Foreign firms enforce to divert the developing countries from their aim of exporting the manufacturing goods and confine them to export the primary goods (raw material) that never promise to bring heavy export receipts and themselves (foreign firms) go for exhibiting the role of dominancy in exporting finished goods. This never helps the recipient country in creating space for the available labor force for further job opening and either of the additional incentives (Furtado, 1974; Kay,

1989). Given the mixed and dissimilar arguments of the theorists and analysts, the evaluation of the benefits of the FCI sometimes becomes hard.

For example Kemp (1966) and Jones (1967), in chassis of "Traditional Trade Theory", recommended the imposition of tariffs in term of controlling the heavy flow of foreign investment in response to indicating the negative outcomes of FCI altogether. On the contrary note, the measures taken against the smooth flow of FCI cause the practicing countries to face welfare loss (Brecher & Alejandro, 1977), unlike of Sir MacDougall (1960) who demonstrated that flow of foreign capital is beneficial to the host country in respect of enabling her to gain specialization in all the fields of businesses, where it gushes.

Once foreign capital is relied upon, the governments of the developing countries are to face a trade-offs. That is between the losses in short run, in term of restrictions towards the export of primary good (less in worth) and employment fall-offs, as prescribed by Kay (1989) and the long run gain(s) in term of a release of unemployment pressures. To make it simple, unemployment in short run and welfare in long run span of time (Méndez, 1983; Khawar, 1997). However, indeed both of the trade-offs are in favor of the developing countries who wish to open their national borders. This is because of their continuous anxiousness towards achieving maximum volume of FCI.

In the analyses of the effects of foreign capital, in term of FDI, amongst the Neoclassical(s), Sir MacDougall (1960) made output subject to the labor and capital. FDI adds to stock of capital and affects the wage rate. The tendency of rising wage rate, in response to the FDI, acts as disturbing the volume of employed labor force. Dunning and Lundan (2008) extended the notion to the economic growth in consequence to the flow of FDI. This increase in production is a result of rise in the

level of employment, which in sequel swells the volume of economic growth. Relating the work of researchers who struggled for bridging the connection between FDI and economic growth, Borensztein *et al.* (1998) gave their verdict that economic growth is achieved only when FDI is in complementarily to inducement in human capital (employment growth). Economic growth is not a consequence of FDI rather a sequel of higher level of employment that appears as a shadow of FDI (Borensztein *et al.*, 1998). Hereafter, the studies of Alfaro, Chanda, Kalemli-Ozcan, and Sayek (2004) and Lee (2001) also acknowledged that the economic growth is in translation of the human capital proliferation, in term of quality and quantity.

Worker remittances, as one the variants of foreign capital, indeed help the recipient country in the process of stimulating employment and production, if utilized properly. Glytsos (1993) envisioned that the worker remittances increase the rate of capital formation and the level of employment. Amjad (1986) also believed that worker remittances reduce the unnecessary pressures of unemployment. Thus, such inflows are indeed helpful in linking the economy with economic growth and for the enhancement in the level of household consumption and overall investment expenditure (Bakht & Mahmood, 1989).

This consumption expenditure, as indicated by Keynes (1936) and Lerner (1967), is a strong determinant of level of employment, in turn motivates the producer to initiate new channel of production, thus resulting in creating more jobs which further contributes in lifting up the purchasing power of the people, over all. Remittances are one of the major determinants of employment because when the flows of remittance excel in their course, not only do limit the benefits to the aspirants only, rather in consequence of too much of spending of money, improve the overall level of consumption, in domestic country. This too much of the spending, as a result,

helps in creating new jobs even for those who are non-migrants and are unemployed families. The beneficiaries of remittances (in context of the carriers of capital), thus benefit the other people even not directly involving them in their spending (Conway, 1992).

Worker remittances are returns on the services performed by country's citizens abroad. This myth of migration and emigration narrow downs the income differences across the national borders of the countries. Doorn (2004) idealized that import of the remittance, in term of capital, in response to the export of the emigrants, helps in accelerating the development process in the labor market and enables in strengthening the linkage of the economies of emigrants and immigrants. However, if the emigrants are exclusive in respect of education and skills, it makes parent country to forefront to the brain drain and later to be left with the unskilled labor. This situation further creates disparities among the immigration and emigration areas (Doorn, 2004).

Consistent and escalating flow of remittance enables the recipient country to be a host for "trickle-down effect". Remittance capital becomes a cause for an increase in the level of investment and acts as a determinant for the new job creation (Imran, 2004). However, in between the creativity in the process of job opening and role of worker remittance, there is one controlled variable i.e. the level of education. Higher level of education is indeed a factor that provides partly insurance against the unemployment. Thus, high unemployment level increases the value of education, additional skills, occupational distinctiveness, and innovative adoption, i.e. human capital build-ups, which in result bring up a positive effect for the entire family in the shape of higher worker remittance inflow in future endeavors (Stark & Bloom, 1985; Stark, Helmenstein, & Prskawetz, 1998; Vidal, 1998).

To ILO (1973), there is a belief that foreign aid and debt are the effective promoters of the process of economic development of the host country (Akramov, 2006). Little and Mirrlees (1974) pointed out that economic development is an achievement of sustained growth in GDP and for no doubt growth is a sequel of value addition in the employment level, even a country is supposed to be capital intensive. However, this perception tends to rely upon some assumptions like that of foreign aid and debt help in making the capital available, for first. Secondly, that the country is poor enough in making necessary arrangements for making the capital available by her own thus seeks to bend down before other nations for their render of such capital. Whereas to get the desired results, the allocation of the capital must be through proper control of the government in line with the avoidance of misuse and the utilization of the capital is to be on the belief of the accomplishment of economic development. Foreign aid, in first instance, adds to the volume of overall capital available in an economy for the dispensement in either of the projects, developmental and non-developmental (Friedman, 1995).

Adam and O' Connell (1999) had a judgment that foreign aid, that is either conditional, helps in generating the domestic capital and improves the speed of the capital formation, thus enabling the government to introduce tax reliefs. Recalling here the notion that tax cut is a vital source for employment creation (Keynes, 1936), though in indirect term, thus makes ground for stepping forward for the new investments and job creations. However, if aid is not used properly, either because of too large in volume or due to some polarizations of strong favored groups, turns into transforming it towards non-productive capital to the receiving country. Isse (1988) portended that once foreign aid is used properly, creates jobs and this in-turn not only does improve the learning of the entrepreneurial activities rather also reduce the

dependency of the government on it, in implication. According to Isse (1988), an increase in human capital formation enables the government to be self-sustained and self-reliant.

Foreign aid, debt, grant, and loans being form of FCI help in enabling a recipient country for the materialization of economic reforms and/or building up of infrastructure that is necessary for the purpose of economic development (Akramov, 2006). During 1950's and 1960's, in utilizing such FCI, the primary objective was of realizing economic growth. However, in 1970's the ideas for such inflows changed and became multi-dimensional i.e. considering not only though the economic growth rather the alleviation of poverty, equitable distribution of income and wealth, and conceivably creation of employment (Little & Mirrlees, 1974). Harris and Todaro (1970) brought advancement in the operational definition of foreign aid and debt by establishing the impression that; not only do these flows contribute to the growth process of a country, that is on the receiving end, rather are helpful in addressing issues of poverty and the employment generation process, too.

Theories and models of, "Big push" by Rosenstein-Rodan (1943); "Take-off" and stages of growth by Rostow (1956); "Inter-Sectoral Structure and Pattern of Economic Growth" by Kuznets (1966) and Williamson (1968); "Relationship and Trade-off Between Output, Employment, Income Distribution and Poverty" by Little and Mirrlees (1974) considered foreign aid as a source of capital that helps triggering economic growth by raising employment and saving and investment of an economy. Thus, foreign aid is not only considered as weapon used for poverty alleviation rather an instrument that turns up the economy towards employment creation.

In the light of theories and models that diversify the operational usage of foreign aid and debt, Mooij and Dev (2004), while studying the budget and

expenditures in India, emphasized that besides the allocation of capital on the eradication of poverty and for the bring up of social development, there is a need to encounter the ways that lead to the creation of employment for the healthy poor in an economy. Major contributory into the development theories like of Chenery and Strout (1966) was brought by ILO in 1973. The ILO contributed in redefining the growth theories, in perspective of foreign aid and debt, with the inclusion of the fact that the transformation process of agriculture towards mechanics, utensiled by foreign aid and informal sector, plays vital role in employment creation.

Foreign aid is ought to be a source of capital to generate economic growth by enhancing investment based on the notion that government would use it in an effective way for "Balanced Growth" (Lewis, 1954), conceivably employment-led-growth. Economic growth is a consequence of rise in the level of production of an economy that results in the rise in level of employment (Dunning & Lundan, 2008; Borensztein *et al.*, 1998). The classical theories on economic growth, by David Ricardo; Adam Smith, and John Stuart Mill, passed on the verdict that economic growth is a sequel of accumulation of capital in an economy. This increase in the stock of capital provides means for creating new jobs (Shrewsbury, 1974).

2.4.2 Foreign Capital Inflows and Employment in Empirical Lens

The flow of financial resources from one country to another is recognized as FCI (Ali & Nishat, 2009; Rivero, 2007; Hye, Shahbaz, & Hye, 2010; Baharumshah & Thanoon, 2006; Stallings, 2007; Ali, 2014; Prasad, Rajan, & Subramanian, 2007; Waheed, 2004; Nkoro & Furo, 2012). However, FCI are indeed in broad context and the developing and developed countries of the world can use these foreign inflows in order to meet their resources deficiency (Obadan, 2004).

Researches were done in investigating for how FCI makes employment level of host country to get affected? In this regard, Revenga, (1997), Anwar (2002), Braunstein and Epstein (2002), Jenkins (2006), Jayaraman and Singh (2007), Rizvi and Nishat (2009), Said and Elshennawy (2010), Chaudhry *et al.* (2010), Akcoraoglu and Acikgoz (2011), Malik *et al.* (2011), Habib and Sarwar (2013), and Imran *et al.* (2013) pledged their contribution in linking FCI (some of the components) with employment level of the host country.

In this concern, Revenga (1997) aimed at analyzing the effects of trade liberalization on wages and employment, though not on overall employment level of Mexico rather on manufacturing sector only. The study employed Ordinary Least Square (OLS) technique and used data from 1984 to 1990 on 2,354 firms like of Feliciano (2001), Cragg and Epeaum (1994), and Robbins (1994). Despite of this, Two Stage Least Square (TSLS) and Generalized Method of Moment (GMM) were also incorporated. The study of Revenga (1997) attempted in arranging trade unions' preferred wage, workers bargaining power, cost of capital in industry, outside industry alternative wages, and trade protection variables like (quotas on inputs, outputs, and tariffs) as right sided variables. The results of the study, in exercising with TSLS and GMM, underpinned reduction in the rate of tariffs on industry in turn reduced the wages paid by industry. The results indicated that fall in the quotas brought reduction in real wages. However, over all the results were showing very small level of change in employment wages against the independent variables (opted).

Thus, weaker results were found in case of employment equation. The study of Revenga (1997) represented relationship between import reduction and employment as negative i.e. higher the import reduction, lower the level of employment. Apart from this, it was found that on account of tariffs and employment, reduction in tariff

rates on industry increased level of employment. The study had some weak areas. Firstly, it captured only data on firm level, so making the study on employment limited towards the industry only. Secondly, the research linked the measurement of employment level, sector specific, to manufacturing sector of Mexico only and not considering the country wise analyses on the effects of trade factor on employment. Thirdly, data span was however short, but took into account lethargic sample of firms, thereby for the coverage for medium-to-large firms' specific panel data.

Later, amongst the fraternity of researchers, looking for the effects of FCI (fewer components) on employment, Braunstein and Epstein (2002) came up with an objective of investigating the bargaining power of Chinas' work force and the level of employment in their relation to FDI and multinational corporations. China being today's economic super power began for international exposure in term of encouraging FDI in 1986 with capturing, as time passed-on, development(s) in labor intensive industry and the production of and export of imported raw material (Chen, 1997). However, in this regard Harrold and Lall (1993), Wei (2000), and Huang (1998) found Hong Kong as major investor in FDI to China.

Regression equation built to execute the analysis was incorporated by total level of investment, FDI, foreign trade, availability of labor force as right sided variables for average annual wage (data collected at provincial level), and GDP/population, FDI, import plus exports, and share of state sector output to total output as independent variables for equation of employment. In translation to the analytical technique, based on Levin-Lin (1992) test of unit root and methodology of fixed effect panel data analysis, the results of the study brought into the knowledge that employment level, wages and labor's bargaining power in China was modestly affected by FDI, compared to that of the effect of trade openness. Apart from this,

public sector firms posted negative effects on the level of employment, meaning that public sector industries as of being capital intensive (Braunstein & Epstein, 2002).

The empirical attempt of taking pose of employment changes in against of FDI, though contributed in value addition by the research of Braunstein and Epstein (2002), however, have had a short coming(s) in terms of the usage of too large set of data i.e. based on 3000 foreign invested enterprises in industry where-in, some were labor intensive and capital intensive the others. Secondly, micro-level data was lacked with. Thus, Braunstein and Epstein (2002), instead of revisiting large FDI related literature on productivity and growth, studied the gain of communities of China in terms of FDI. Unlike of Jayaraman and Singh (2007) and Malik *et al.* (2011), the study by Braunstein and Epstein (2002) found insignificant effects of FDI on employment, reason being the inclusion of too large set of the data.

However, general perception about FDI is like "it is expected to lead to employment augmentation, improvement in technology, proliferation in horizon of overall output level of the economy, and somehow or the other may be seen in tempting for increasing tax revenue and higher wages."

Anwar (2002) came up forward and contributed for analyzing the impact of trade liberalization on employment, like was thought upon earlier by (Revenga, 1997; Braunstein & Epstein, 2002; Jenkins, 2006; Jayaraman & Singh, 2007; Said & Elshennawy, 2010; Akcoraoglu & Acikgoz, 2011), growth, and poverty in Pakistan for data set ranged from 1972 to 2000. Amongst these number of empirical studies conducted in showing collaboration of FCI with wages and employment in the region or country specific, Anwar (2002) explored for the impacts of trade liberalization on macroeconomic (growth, poverty, and employment) base of Pakistan, in descriptive analyses. Anwar (2002) found that in short run negative effects of trade liberalization

on macroeconomic base out-weighted the expected positive effects of trade liberalization (globalization), in general. The study by Anwar (2002) came out with the results that led to develop a conservative thinking about trade liberalization in term of exploring for slow rate of growth in exports. The trade liberalization came up with depressed trade openness to GDP ratio reason being unfavorable patterns of FDI towards Pakistan. Rate of unemployment and manufacturing sector growth remained volatile during period of trade liberalization (Anwar, 2002). The study of Anwar (2002) concluded in stating the volatile state of poverty and unemployment in the region that needs flows of foreign capital in line with appropriate allocation of the same for the achievement of desired results.

Analyzing the study of Anwar (2002), it is found to be depending upon the explanation about trends, dimensions, and patterns of exports and imports of Pakistan against the rate of unemployment and trends of poverty. Revenga (1997), on the same note, while tracing for effects of trade liberalization on employment found it as significant in affecting the process of employment creation, but in negative. The study of Anwar (2002) though captured the data from authentic sources i.e. from economic survey, issued by MFGOP; State Bank of Pakistan (SBP) however, there had been theoretical explanation about the trends, patterns, horizons, and dimensions of growth, poverty, and unemployment coincided with the level of exports and imports (in term of globalization). Whereas, such dynamic impacts of globalization, even though in term of trade liberalization, are supposed to be tested empirically like were done by Revenga (2007), Akcoraoglu and Acikgoz (2011), Malik *et al.* (2011), and Imran *et al.* (2013).

Nevertheless, on a contradictory note to the general perception about the special effects of FDI on the level of employment and on other macroeconomic

statures of a country, Jenkins (2006) neither found any significant effect of FDI on the level of employment nor did show any appropriate connection between indirect employment creations[2]. The study captured data size of three years i.e. from 1995 to 1999 in cross section. Amongst the right-sided variables; share of foreign affiliates in gross output, percentage industrial output (in term of growth varying from 1995-1999), share of state owned enterprises in gross output, and ratio of exports to gross output (in terms of change) were viewed, to explore for the employment response.

Overall results, with less strong adjusted R^2, showed negative relationship of employment with foreign sector affiliated firms. Surprisingly, some negative relationships were found on employment against share of state owned enterprises in gross output, like those found by Braunstein and Epstein (2002). It is because of the rationalization of the public sector industries towards the adoption of machinery oriented production process(s). However, employment had positive relationship with percentage growth of overall industrial production (Jenkins, 2006).

The study brought into being by Jenkins (2006) was pertained by weakness(s). Firstly; neither does short run and long run likelihood between the opted variables were investigated nor does the causality effects. Nevertheless, the results of the study of Jenkins (2006) were mostly suggestive instead of being conclusive. Thus, the interpretation of the results was for presenting broad picture in suggestive manner rather than being in conclusive order. Secondly; the major aim of the study of Jenkins (2006) was based upon finding impact of FDI on employment in Vietnam however, because of the unavailability of sufficient and authentic data on Vietnam industry, the estimation for employed work force was made in terms of changes in salaries per person employed and average wages. Thirdly; Jenkins (2006) used shares of foreign affiliates in gross output level of economy, instead. Fourthly; data on all the variables

(right sided and left sided) were confronting to missing values while looking for the foreign affiliates' effects of employment, in descriptive part of analysis.

Taking references from the previous studies on highlighting social and distributional implications of FDI on host country, as argued by Jansen (1995) and Hill and Athukorala (1998), Jayaraman and Singh (2007) carried forward the objective of undertaking empirical study that endeavored to find out the impacts of FDI on employment opportunities on Pacific Island countries, that is Fiji.

The empirical study of Jayaraman and Singh (2007) was based on covering the data for 34 years' time period that ranged from 1970 to 2003. The data captured for formal sector covering central, local, and public sector agencies including industrial FDI-related employment data. In order of exploring for long run relationship between FDI and employment level, bound testing approach of co-integration was used, like Atkins and Coe (2002), Bahmani-Oskooee and Goswami (2003), Narayan and Smyth (2005), Hye *et al.* (2010), and Akcoraoglu and Acikgoz (2011). The study of Jayaraman and Singh (2007) came out with the results that there exist long run relationship between employment (dependent variable), GDP, and FDI (independent variables). Nevertheless, positive long run marginal effects were also found between level of employment and FDI, while (Augmented Dickey and Fuller (ADF), 1981) technique was used to check for the unit root.

In exercising with Granger causality test, the study of Jayaraman and Singh (2007) found no causality running either between GDP and FDI or from GDP to employment growth. However, in short run only FDI found as causing GDP. In long run case, Jayaraman and Singh (2007), published that, in result of significant value of the coefficient of Error Correction Term (ECT), FDI and GDP both had long run relationship with employment. Thus, Granger causality test vetted the results of bound

testing and showed long run causality between FDI and GDP to employment level of Fiji.

Yet, in the sequel of attempt on exploring relationship among FDI and employment, the research work of Jayaraman and Singh (2007) came up with short-coming of unavailability of reliable data on other countries in pacific island region, except of Fiji. However, in case of Fiji too, the availability of data on account of employment in FDI sector of Fiji was unavailable (in term of aggregate and specific level). Due to that reason, the author, i.e. Jayaraman and Singh (2007), attempted to relate effects of FDI on the level of employment in formal sector. The data though covered the range of 34 years however, the authenticity of the data had a question mark in term of the reliability and authenticity. Besides the authentic data unavailability, the ad hoc adjustment and frequent revision in the data usually cast for serious issues on data quality, as was pointed out earlier by Williams and Morling (2000) and Hughes (2003, 2004).

Amongst the researchers, Aktar and Ozturk (2009) contributed into the body of knowledge by working on effects of FDI on employment in Turkey. Capturing quarterly data from 2000:1 to 2007:4, the study came up with the findings that FDI stood ineffective in posing positive responses on the level of employment however, looking onto the effects of FDI and GDP, via technique of Impulse Response and Variance Decomposition (IRVD), only the later registered positive effects on the level of employment.

There is indeed a linkage between foreign inflows-led-globalization (in terms of trade liberalization), economic growth, and employment. In this regard, it is channeled through human capital (employment generation). In tracing for the expected response of economic growth by trade liberalization in line with the

causality effects on human capital, Chaudhry *et al.* (2010) brought forward an empirical research on exploring for the interaction and causality relationship between trade liberalization, human capital, and economic growth. The study employed cointegration technique for analyzing the data, as directed by Johansen and Juselius (1990), for the time period ranging from 1972 to 2007.

Employing unrestricted cointegration rank test, long run likelihood (relationship) between the variables was found as was traced earlier by Jayaraman and Singh (2007). ECM gave the results that showed strong associations between the GDP and human capital. Like of Jayaraman and Singh (2007), Granger causality test was practiced to fetch for the causality relationship among the variables in equation. Between both GDP and size of human capital (taken as size of employed labor force), Chaudhry *et al.* (2010) lacked to acknowledge the causality, in long run. Focusing on economic growth concerns, the conclusion drawn from the work of Chaudhry *et al.* (2010) is the fact that economic growth is possibly achieved via indication of positive effects of FCI, that is in term of trade liberalization and human capital accumulation.

On the other side, as discussed earlier that the components of FCI have linkage with the macroeconomic issues of the host country, in this regard, Said and Elshennawy (2010) stepped-in for incorporating empirical study on investigating for the effects of trade liberalization on manufacturing sector employment and wages, as was done previously by Revenga (1997) and Braunstein and Epstein (2002). The study was carried for the range of data coincided with the time period of rising unemployment level, but appreciable reduction in the trade barriers, in Egypt, i.e. 1993 to 2006.

Despite of increase in import base of Egypt, Said and Elshennawy (2010) found that level of employment increased in the manufacturing sector industries

against of trade liberalization. Firstly; the data was worked-out on the Kletzer (2001) approach of investigating for the actual cause of research i.e. the displacement outcome in employment in response to the trade liberalization. Secondly; the data was regressed for quantile regression in order of gaining information on wage sensitivity against trade reforms for five quantiles. The results of the study of Said and Elshennawy (2010) underpinned the growth of employment in terms of liberalization of trade in almost all the manufacturing sector industries in Egypt.

However, the significance of the study of Said and Elshennawy (2010) is veiled due to the fact of being sector specific at first, and secondly, further looked-in with narrow insight on the area of only intermediate and capital goods manufacturing industries. In contrast to the information published about positive association of trade liberalization with the level of employment in short run and long run, the causality relationship(s) are not worked out between either sided variables in the equation. Employment equation was developed on the quantile regression mode and took log of total workers available (in term of wages in time) against the variable like gender, age, age squared, sector and education indicator, and region of residents, thus made the study manufacturing-sector-specific and narrow visional, in general.

So far the studies summarized were for the measuring of effects of FCI either in term of trade liberalization or FDI separately on the level of employment. However, one development in this area was brought into being by Akcoraoglu and Acikgoz (2011), who analyzed the effects of trade liberalization and FDI on employment in Turkey.

The time period on which the study was based upon, ranged from 1990 to 2010. The data was regressed through ARDL technique of analysis. Furthermore, Granger causality test was employed for the judgment of short run and long run

causality between the key variables used in the equation. ECT depicted for the adjustment of disequilibrium from short run to long run and positive effects of export on the level of employment and wages, unlike of imports at first difference. On the ground of causality; exports, as appeared to be significantly and positively contributing to employment in short run, were found as significantly determining the employment level not only do in short run rather in long run too. Thus, acknowledged the findings of; Brecher (1974), Davis (1998), Matusz (1996), Felbermayr, Larch, and Lechthaler (2009), Ghose (2000), and Said and Elshennawy (2010), opposite to Egger and Kreickemeier (2009) and Malik *et al.* (2011). Nevertheless, the effects of FDI on the level of employment were also statistically significant in long run. Brief comparison is stated as; FDI has small effect on employment (Jenkins, 2006; Braunstein & Epstein, 2002), significant negative effect on employment (Akcoraoglu and Acikgoz, 2011), in contrast to Jayaraman and Singh (2007).

Akcoraoglu and Acikgoz (2011) constructed the employment equation (developed on the natural logarithm) on the basis of real GDP, ratio of exports to GDP, real wages, ratio of import to GDP, and ratio of FDI to GDP as right sided variables. The research work appeared to be strong in terms of using ARDL, Granger causality test, and Vector Error Correction Model (VECM). The results showed positive and significant effect of exports on employment, as prescribed by Lerner (1967) however, negative and statistically significant effect of FDI on the employment level and positive effects of output and wage on employment level. Though, long run causality was found for employment against its determinant of exports, but no long run causality found with FDI. Nevertheless, study of Akcoraoglu and Acikgoz (2011) based on quarterly observation not on the annual. Despite of all the highlights, results of empirical finding had too low value of adjusted R^2.

Studies conducted in estimating the relationship between FCI and employment, in Pakistan, are very infrequent and rare. Some researchers, however, tried to explore this dimension. But these studies do not trace the results of entire FCI on employment in Pakistan. Even though, exploring for as a whole South Asian region, at least of the biggest economies, for the same findings, no such exhaustive and specific literature is found incorporated. Among few of the studies linking employment with FCI (fewer components), Anwar (2002), Rizvi and Nishat (2009), Malik *et al.* (2011), Habib and Sarwar (2013), and Imran *et al.* (2013) have pledged their contribution.

In view of different results pledged by the empirical research work done in past for tracing the effects of FDI on employment, most of the researchers commended positive effects of FDI on employment like Arellano and Bond (1991), Federico and Minerva (2008), Ajaga and Nunnenkamp (2008), Jayaraman and Singh (2007), unlike Buffie (1993) and Akcoraoglu and Acikgoz (2011), nevertheless, Braunstein and Epstein (2002) and Jenkins (2006), who indicated small survived impact of FDI on employment. However, Rizvi and Nishat (2009) designed their research with an objective of undertaking an empirical study in order to look for the creation of employment opportunities in response to the flow of FDI in Asia. The data used for the research was based on 23 years of observations from 1985 to 2008. The study by Rizvi and Nishat (2009) went forward through panel data analysis of exporting disaggregated results on each country in the selected region. In because of the balanced panel data, Rizvi and Nishat (2009) went for exercising (Im-Pesaran-Shin (IPS), 2003) unit root test to start with.

In tracing for the desired outcomes of the panel data, method of cointegration of Pedroni (1999), Seemingly Unrelated Regression (SUR), and dynamic ordinary

least square technique were exercised-with in order to get the long run relation among the variables and for the appropriate multivariate analysis. The results registered as showing cointegration among the variables. On account of SUR, only GDP posted positive effects on employment. No evidence of creating employment opportunities spelled out in response to the flow of FDI in the selected countries i.e. Pakistan, India, and China.

Impulse response of employment against GDP was also traced out by Rizvi and Nishat (2009) through Impulse Response Function (IRF). GDP as being the only significant variable was opted to trace out for the impulse response findings on the level of employment, in against of the unexpected variations in growth rate. The result came out as affecting the level of employment by 0.75 percent in response to the shock in GDP, that later caused the employment level to slip down gradually.

In view of the FCI and employment behavior, the study carried out by Rizvi and Nishat (2009) although was for empirical testing of the effects of FDI on employment but is still placed in weak area in its scope for firstly, not taking into account too wide range of data in order of getting a hold of better results. Secondly, the study was measuring the variables on Pakistan, India, and China whereby neglecting the involvement of other SAC like of Bangladesh and Sri Lanka those are confronting to the similar state of issues on account of employment problems. In review of the literature part, the study gave relevant summary of past researches on the subject of FDI in term of its impacts. However, skipped in discussing the importance of sound macroeconomic policies needed for achieving desired consequences from FCI, as described by Qayyum, Musleh, and Haider (2012), Ramzan and Ahmad (2014), Dollar and Pritchett (1998), Easterly (2001, 2003), and Waheed (2004).

As indicated and practiced by Altzinger and Bellak (1999), the rational of direct and indirect effects of FDI on growth, research work of Rizvi and Nishat (2009) may be declared as weak in the area of computation of results, otherwise, due to the collapse in trace of the effects of FDI on employment level in Pakistan. Moreover, GDP was only being right sided variable along with FDI. Findings depicted negative effects of FDI on overall employment. Whereas, the impacts of FDI on sector specific employment level of a country, as were traced by Braunstein and Epstein (2002), Jayaraman and Singh (2007), had vice versa results to Rizvi and Nishat (2009).

Today, the survival of countries, either developing or developed, is dependent upon external exposition (globalization). It is because there is no concept of survival in isolation. Thus, amongst some of the contemporary issues and challenges that the world faces, one of those is globalization. However, political and socioeconomic states of country, in reciprocation, are quite crucial in their role in determining the effects of globalization on a particular country. In this regard, Malik *et al.* (2011) came up in practicing an attempt for the effects of globalization on employment. The study was conducted for Pakistan covering up data from 1973 to 2009. The empirical work was executed in measuring how the level of employment gets affected in response to trade openness, worker remittance, and FDI. The study brought forward the introduction of new variable, in the line of right sided, i.e. of globalization index. The study was preceded through the usage of Johansen and Juselius (1990) technique of cointegration and an ECM for tracing short run and long run dynamics among the dependent and independent variables.

Researches executed in previous, especially on Pakistan and SAC, for the cause of tracing out the effects of trade liberalization and FDI on employment, exports, labor transformation from one sector to the other, and economic growth gave

mixed results (Khan & Khilji, 1991; Khan, 1998; Dev, 2000; Yasmin & Khan, 2005; Afzal, 2007; Qayyum, 2007; Fatima, 2010). The empirical findings of Malik *et al.* (2011), after taking log of all the variables and encompassing through the exercise of unit root analysis as prescribed by (Dickey and Fuller (DF), 1979), brought the information that trade openness posted negative effect on the level of employment. The rate of literacy was also negative to the level of employment, reason being the estimation of data on literacy rate that added all the people to the list of literate, who just knew the way to write and read their names. However, the effects of worker remittance and FDI posted positive effects on the employment level.

Malik *et al.* (2011) went along with Johansen and Juselius (1990) technique of cointegration that further helped in investigating for the likelihood test among the selected variables. Once there was found long run relationship, variables were tested for short run relation that was to explore that either adjust of disequilibrium exists among the variable, progressing onto long run, like Jayaraman and Singh (2007). However, the directions of effects of either of the opted independent variables on the dependent variable (employment) for short run coefficient estimation were found, like of Akcoraoglu and Acikgoz (2011).

On account of the effects of political, social, and economic globalization on employment level, the study of Malik *et al.* (2011) found only economic dimension of globalization as posting positive effects on employment in long run and went towards no success on exploring the effects of the same in short run. Even how, in terms of social and political globalization index, the results were found negative to employment in either time period. The reason quoted by Malik *et al.* (2011) was social and political unrest in some territories of Pakistan that resulted for non-transformation of positive effects of the same on the level of employment.

The study of Malik *et al.* (2011) was found to be undermined in its course of contribution to the knowledge. Firstly; it is because of non-inclusion of controlled variables amongst the right side of the equation to tell for the detailed version of comparison and analysis between multiple variables. Secondly; due to the unavailability of the data on account of globalization, the values/statistics on variables of globalization (economic, political, and social) were created for 1970's. Malik *et al.* (2011) did not work for bringing into consideration the comparison between other countries in the region, like that of Pakistan with the other South Asian nations. Whereby, when globalization was being introduced by Malik *et al.* (2011), in term of examining for the effects on employment level, there was ought to be a snapshot of the effects of opted variables of such caliber on the entire region, rather than being single country specific.

Moreover, Habib and Sarwar (2013) and Imran *et al.* (2013) furbished empirics on analyzing effects of FDI on employment level. In attempting to secure the objective of examining relationship between employment and FDI, Habib and Sarwar (2013), while exercising with the analytics of Johansen (1988) for exploring cointegration, found the results that FDI and GDP per capita affected employment level in positive. Thus, in respect of FDI, the results were found to be in line with that of Malik *et al.* (2011), opposite to Akcoraoglu and Acikgoz, (2011). The Granger causality test was employed to explore for the results of causality relationship between all the variables (exchange rate, FDI, GDP per capita, and level of employment), formed in the equation. However, no causality relationship was found except of the unidirectional causality between exchange rate and GDP per capita. Apart from Habib and Sarwar (2013), in-realizing the fact that FDI as of being important in bringing up profound effects on macroeconomic variables of particular

country, Firebaugh (1992), Rehman, Jaffri, and Ahmed (2010) attempted in analyzing the effects of FDI on sectoral growth, stock of capital, and equilibrium exchange rate.

The significance of the study of Habib and Sarwar (2013) appears as clouded, firstly, because of finding no causation between FDI and employment and secondly, due to weak justification spelled-out on the effects of exchange rate causation on GDP per capita. The effects of right sided variables upon employment were also explained in undefined units and not in terms of percentage, like explained in the study of Malik *et al.* (2011) and Chaudhry *et al.* (2010). The term significance level was also not described by Habib and Sarwar (2013) rather only the directions of change between the variables were highlighted.

Amongst the group of researchers like of Meidani and Zabihi (2012) and Akcoraoglu and Acikgoz (2011) who conducted their research on investigating effects of trade and FDI on employment in Iran and Turkey — Javed, Sher, Awan, and Ashfaq (2012) opted to test effects of FDI and trade however, not on employment rather on economic growth in SAC. Here, Imran *et al.* (2013) came up with the induction of gross capital formation in an equation of employment for the mean of investigating for the effects of trade openness and wage rate (proxied by minimum wage rate) on the level of employment in Pakistan. Imran *et al.* (2013) brought into practice ADF (1981) test for finding out stationarity of the data and hereafter went with Johansen and Juselius (1990) technique of cointegration and ECM for exploring short run and long run dynamics between the variables. The results of the study underpinned that gross fixed capital formation had a positive effect on the level of employment. The results on account of trade openness also appeared in the same direction in affecting the level of employment. Whereas, dealing with export and imports in separate, employment slipped in negative to imports and positive to exports, as in the research

effort of Akcoraoglu and Acikgoz (2011). Wage rate taken as proxy of minimum wage rate posted negative effect on the level of employment (Imran *et al.*, 2013).

Furthermore, the study of Imran *et al.* (2013), like of Habib and Sarwar (2013) is supposed to confront with a short coming in respect of not including the control variables like of macroeconomic policy mix such as inflation rate and budgetary deficit, as were introduced and insisted-on by Burnside and Dollar (1997, 2000, 2004). However, the involvement of such is important because FCI are strongly affected by the macroeconomic and socioeconomic situation of the host country. The variable of wages was also proxied by minimum wage rate, instead of taking into account total remunerations paid that appears to be as more authentic (Braunstein & Epstein, 2002). The study of Imran *et al.* (2013), in conclusion, was confined to trade openness and wage rate as right sided variables however, FDI, foreign aid, foreign debt, and worker remittances also add to the gross fixed capital formation of their recipient country, as argued by Glytsos (1993), Friedman (1995), and Adam and O'Connell (1999), but were neglected.

Briefly, synthesizing the contemporary empirics on FDI, Onimisi (2014) tempted to look into the FDI led effects on the employment of Nigeria for the period of 2000 to 2012. Empirical findings related to multiple linear regressions brought up negative results, though insignificant. On the same ground of insignificant and negative results, Brincikova and Darmo (2014) also had fixed effect panel data analyses on V4 countries i.e. Poland, Czech Republic, Hungary, and Slovakia, covering the period within 1993 to 2012. However, GDP had significant positive affectations on employment (Brincikova & Darmo, 2014; Onimisi, 2014).

Further diversifications into the research via panel data analyses were brought by Hisarcıklılar, Gültekin-Karakaş, and Aşıcı (2014) who focused upon 10 of the

sectors of Turkey for their show-off of any of the relationship among FDI and employment within era of 2000 to 2007. The study based at dynamic panel data estimations, went with analytics of GMM and nevertheless brought into light significant negative effects. Extending further the empirical findings, capital oriented techniques followed in production houses and the needs for the human capital those are affiliated to foreign firms, lead to job destructions (Jude & Silaghi, 2016). Taking into possession 20 of the Central as well as an Eastern European countries for the period from 1995 to 2012, Jude and Silaghi (2016) came up to conclude that the analysis did fail to have any contradictions towards negative employment repels, basing upon FDI. Therefore, interpreting FDI-led-employment, negative rejoinders are evident (Onimis, 2014; Brincikova & Darmo, 2014; Hisarcıklılar *et al.*, 2014; Jude & Silaghi, 2016).

However, prior to that, Inekwe (2013) explored into the sector-wise factuality of FDI on employment of Nigeria, for particular, in manufacturing and service sector, respectively during 1990 to 2009. Exercised herewith Johansen technique of cointegration along with VECM thus came up to enlighten mixed state of results. For instance, service sector employment tended to have negative repels towards FDI, contrary to that of manufacturing sector. However, traces of unidirectional causalities were found in either of the sectors.

Focusing on service and manufacturing sector related FDI effects in Malaysia during 1972 to 2011, Bekhet and Mugableh (2013) found positive response in either of the sectors. However, opposite to Inekwe (2013), Bekhet and Mugableh (2013) worked along with cointegration analysis of ARDL. Later on, Bekhet and Mugableh (2016) had a capture of manufacturing, agriculture, service, mining, and construction sector related employment responses to FDI in Malaysia for the period from 1972 to

2012. Employing analytics of Pesaran, Shin, and Smith (2001) i.e. ARDL, the study of Bekhet and Mugableh (2016) came up with the mixed results at long run and short run. Where else, akin to Inekwe (2013), unidirectional causality tie-ups were viewed among FDI and employment, however, in case of manufacturing and construction sector.

To bring the empirics to closure, Narender and Dhankar (2016) identified the prevalence of cointegration between foreign capital and total employment, employment at public sector, and private sector employment of India at a point of 1990 to 2012. For particular, considering FDI, nonresident deposits of Indians, foreign portfolio investment, and external commercial borrowings as constituents of foreign capital. Time series analyses founded at Johansen cointegration test established cointegration between entire forms of foreign capital and employment. However, parallel to Inekwe (2013), Bekhet and Mugableh (2016), commending on the direction of long run coefficients, the assorted results were published on account of entire forms of foreign capital to employment.

The studies those dealt with the amalgamations of foreign aid and employment are however narrower to that of FDI. Even so, in this respect, Page and Söderbom (2015) executed panel data research on formal sector small and large firms of Ethiopia next to capturing the period of 2001 to 2008. The findings suggested that small firms do have greater employment turnovers than large firms however they are short lived and die-out earlier. To Page and Söderbom (2015), employment repels to foreign aid did have strong positive state of beings in either sectors, provided investment climate is conducive and firms' capacity buildings are set-forth in respect of management training(s).

In the same area, Juselius *et al.* (2014) had their focus on 36 of the sub-Saharan African countries within epoch of 1960 to 2007. As statistical benchmark, the analysis was indebted towards the fetch of long run effects of foreign aid on the macroeconomic variables i.e. GDP and investment by the mean of cointegrated Vector Autoregressive (VAR). Analogous to the statement of Lewis (1954) and Dunning and Lundan (2008), the findings did evident as of supporting way of being of foreign aid to macro economy. Noticeably, it is however the investment that is engaged to cope up with the deficiencies of capital — thereby initializes within the state projects and later entangles employment (Friedman, 1995; Little & Mirrlees, 1974; Akramov, 2006).

On the contrary, Simpasa, Shimeles, and Salami (2015) reached at the findings that; of projects aid ran by African development bank, within the time frame of 1995 to 2015, heterogeneous effects were found on employment. The sector wise bifurcations were done on the bases of productive (microcredit institutions and small scale industries), health, and education sector and thus clarified that much of the project aid had larger collision on employment in the productive sector. Furthermore, differing to Lewis (1954), Simpasa *et al.* (2015) concluded that aid-growth-employment nexus had to have less potential in growing employment than that of the one deduced through an aid, at particular.

Amongst the variants of FCI, the attachments of worker remittance and employment were explored by Malik *et al.* (2011), similar to Grigorian and Melkonyan (2011) and Kovtun, Cirkel, Murgasova, Smith, and Tambunlertchai (2014). However, the studies came up with mixed conclusions. To Grigorian and Melkonyan (2011), the focus was towards that of household behavior to a flow of worker remittances in respect of job hours in Armenia. For the analyses, living

standard measurement survey was observed that embedded data of 6800 households and worked with three staged structural econometric model. Findings concluded that the beneficiary households worked for fewer hours due to their enhanced leverage in terms of money available to be spent on business activities. Nevertheless, Kovtun *et al.* (2014) glanced at Western Balkan countries to analyze labor markets behaviors to remittance inflows. Thereby, concluded extensions in the job search periods and furthermore, exacerbation of decline in the skills – whilst extended showing off of unwillingness towards the acceptance of low salaried job offers.

Worker remittances are equally beneficial to economic growth and towards that of employment (Malik *et al.*, 2011; Imai *et al.*, 2014). In this respect, seeing onto employment repels of worker remittance in Pakistan; Malik *et al.* (2011) founded significant positive impact of the same on employment. Additionally, Mughal and Makhlouf (2013) envisaged at the labor effects of worker remittances in Pakistan. Therein, household integrated survey of the period from 2007 to 2008 as well as probit and matching technique of propensity score was practiced to examine quantity of work, labor participation, the activities of working, and the non active members of the households those receive remittances. However, analogous to Grigorian and Melkonyan (2011) and Kovtun *et al.* (2014), the findings pointed out of the lesser supply of labor, on accord of remittance receivables. Nevertheless, to Mughal and Makhlouf (2013), overall impact of foreign remittances was higher to that of local remittance.

Employment patterns that change in response to the changes in independent variables may not just be tested for the scale of short run, long run, and direction of changes only. However, as worked out by Rizvi and Nishat (2009) and Aktar and Ozturk, (2009), such studies, though are fewer, did go towards examining the impulse

response of employment to the shocks in right sided variables, mainly in line with the theoretical doctrine, by the mean of IRF.

Channels that are defined to be the routes of posing the effects of FDI on the level of employment are many fold. They may not always appear to be as of macroeconomic in nature for always. Therefore, if base line objective is of tracing the responsiveness of employment, it may be grabbed by many ways. It is because of the fact that capital (either outsourced or is internally initiated) does have effects on the internal economic situations of a country; which according to Pissarides (2000) later effects level of employment. Having said this, it is not hard to realize the effect of capital on the state of technology that later is to reflect the response of employment to the shock in either of the exogenous variables.

Some of the studies, like of Gali (1999), Fatás and Mihov (1998), and Cavallo (2005), conducted on exploring for the responsiveness of employment to right sided variables, were to work out for the investigation of alterations in the level of employment and working hours of the labor in the mirror of Real Business Cycle Theory, in terms of technology shock, as was prescribed by Pissarides (2000), Barro (1981), and foremost by Lucas and Rapping (1969). Nevertheless, some went for chasing how fiscal policy expansions are to affect the level of employment, as proposed and theoretically thought out by Lerner (1967) and Keynes (1936), akin to Fatás and Mihov (1998).

Gali (1999) attempted for working out on the trace of effects of technology and production on the level of total civilian work force and of total employed hours in non-agriculture business of US. Working with quarterly data from 1948 to 1994 and exploring for the impulse response of employment against right sided variables, like that of Fatás and Mihov (1998) and Cavallo (2005), found that positive move of one

standard deviation on account of technology shock brought into being small increase in the labor productivity of just 0.6 percent, thus gave hint about falling employment in response to improvement in technology base line (Gali, 1999). Short lived increase in initial labor productivity together with small increase in the output reflected for decline in the level of employment. Thus, in response to the technology shock, both employment and productivity moved in opposite direction.

Level of employment is always responsive to the consumption as well as the spending of capital in a particular economy (Keynes, 1936; Pissarides, 2000). Spending of money that reflects for the mobilization of capital was traced in terms of fiscal policy by Fatás and Mihov (1998). The study of Fatás and Mihov (1998) found three times higher increase in the level of production of private sector in response to unit increase in the government expenditure. As suggested by Keynes (1936), furthermore, the finding of Fatás and Mihov (1998) suggested for positive movement on account of consumption and level of employment in response to fiscal expansion, those were possibly in result of increase in government spending without any increase in tax rate.

In further expanding the discussions on the employment behavior in view of IRF, when government expenditure i.e. fiscal expansions are brought up in term of enhancing consumption expenditure on good and on employment compensations, Cavallo (2005) found that both forms of the expenditure components increased the level of output as well as the number of hours worked by the employees.

In recent times, a research is formed to dig out the sector wise effects of FDI and GDP on the employment level of Czech Republic by Yousafzai (2014). The study penetrated along with the data set of 19 years that is from 1993 to 2011. Employing IPS (2003) technique of unit root/stationarity analysis, ECM, and Johansen Fisher

panel cointegration, the results of the study of Yousafzai (2014) found run of causality from FDI to employment level in short run and long run. Same patterns of relations were found by Jayaraman and Singh (2007), Malik *et al.* (2011) in terms of both FDI and GDP, and by Rizvi and Nishat (2009), on account of GDP only.

Moreover, exercising with IRF for tracing the effects of shock in FDI and GDP to employment, Yousafzai (2014) found positive response of employment level to the exogenous shock in flow of both FDI and changes in GDP in contrast to the cointegration results on the same variables i.e. FDI and employment, exclusive of GDP, as were traced out by Braunstein and Epstein (2002), Akcoraoglu and Acikgoz (2011), and earlier by Jenkins (2006). Opposite to the behavior of employment to FDI on account of cointegration, under IRF analyses, FDI stood as bringing up nonresponsive slippages on level of employment, than that of the effects of GDP on the same (Yousafzai, 2014).

However, reason(s) of being vice versa results of the study of Yousafzai (2014) to Jenkins (2006), though both went for cross section analysis, may be due to the usage of different set of data. Analyzing for changes in employment level to FDI, there have had positive associations in short run and long run as vetted by the past researchers like of Jayaraman and Singh (2007), Malik *et al.* (2011), and Habib and Sarwar (2013). When GDP is taken together with FDI, it is seen for FDI as positively affecting the level of employment, even though in respect of variety of analytical techniques like of Johansen Fisher panel cointegration by Yousafzai (2014); bound testing by Jayaraman and Singh (2007); Johansen and Juselius (1990) approach of cointegration as ran by Habib and Sarwar (2013), opposite to the results found on account of analytical technique of IRVD by Aktar and Ozturk (2009) and penal data cointegration by Rizvi and Nishat (2009), as suggested by Pedroni (1999).

2.5 Employment and Control Variables

On the note of the control variables that are used in the equation of measuring employment level, wage rate is considered as of primary importance (Lerner, 1967; Lucas & Rapping, 1969; Barro, 1981). Jenkins (2006) tested for the effects of FDI on employment while using wage rate as control variable. Jenkins (2006) found that wages as negatively affecting the level of employment, like of Imran *et al.* (2013). The results of both Jenkins (2006) and Imran *et al.* (2013) are envisioned in line with the findings of Akcoraoglu and Acikgoz (2011).

The level of exports growth and level of employment are interdependent on one another. Considering the export growth as determinant of employment, Akcoraoglu and Acikgoz (2011) found positive effect of export growth on employment level. Apart from this, the lagged term of error correction being significant – showed the existence of long run causality between export growth and the level of employment. Nevertheless this, on account of short run span of time, Akcoraoglu and Acikgoz (2011) found responsiveness of employment level in against of exports at three percent level of significance. It is not unusual to expect the relationship between employment/unemployment and export growth of a particular country (Lerner, 1967). The level of unemployment effects the demand for products in local market (either the products are domestic or imported). High rate of unemployment causes the overall price level of the economy to fall down that, in result, later appears to be one of the stimulators for increasing competitiveness of that country's products in international market.

Malik *et al.* (2011) tested rate of literacy at the position of control variable against the level of employment and thus found that higher the rate of literacy, higher the level of unemployment. Pissarides (2000) highlighted the significance of capital in

the creation process of new jobs. Imran *et al.* (2013) measured value-addition in the amount of capital that prevails in an economy by level of gross capital formation and found the same as positive in posing effect on employment. Another study prior to Imran *et al.* (2013) was conducted by Awan *et al.* (2010) in catering for the effect of gross capital formation, however on FDI. Capital formation, as prescribed by Pissarides (2000), was found to have positive significant effect on the level of employment (Imran *et al.*, 2013).

However, too much of the money supply causes the rate of speed with which price level of the economy rises, in normal, to shoot up. Thus, takes the economy towards inflation. Rate of inflation was prescribed as a factor that affects the level of employment (Lerner, 1967). Whereas, if the amount of capital accumulation in a particular economy is due to the extent of rise in flow of foreign capital (foreign affiliates), it adds to the overall base of capital formation in a particular state. Therefore, it is considered, for sure, as one of the prominent sources of enhancing overall investment level in a country (Pissarides, 2000). Accumulated level of investment, in terms of FDI, transforms into the job creation (Braunstein & Epstein, 2002; Jayaraman & Singh, 2007; Habib & Sarwar, 2013; Malik *et al.*, 2011).

Inflation is a factor that does affect the level of employment (Lerner, 1967), but cannot act as a deterrent in flow of FDI (Mehmood & Faridi, 2013), which is a factor that determines the level of employment. The study of Jayaraman and Singh (2007) paved the way of linking direct foreign investment, growth, and level of employment. In this regard, the study of Khan and Khattak (2009) and Mehmood and Faridi (2013) explored, via their empirical study that inflation brought up positive effects on the level of FDI. However, the relationship between inflation and level of employment is not yet tested. To conclude, exporting the references from the findings

of Mehmood and Hassan (2015), and accordance to the theoretical depictions of Lerner (1967) about inflation and the level of employment, link can be framed out in the term that; inflation if affects FDI in negative and FDI to employment is positive in bringing up of the consequence, then inflation is to affect the level of employment in negative too, or in rare, positive either (Mehmood & Faridi, 2013).

Habib and Sarwar (2013), Rizvi and Nishat (2009), Jayaraman and Singh (2007), Brincikova and Darmo (2014), and Onimisi (2014) exercised on GDP per capita and GDP growth rate as a controlled variable in their equation of estimating the effects of right sided variables on employment level. The results of the studies found positive effects of all forms of GDP variables on employment level.

2.6 Literature Gap

Previous researches fabricated were mostly based on evaluating the effects of FCI, including not all of them, on poverty, economic growth, and only FDI on employment. Research gap is found evident in previous researches executed so far. This gap further breaches once it is exposed on account of; area of study, methodologies, findings, choice of variables, and for obvious, the region chosen by the past researchers, to carry-out research on, and the same that this study highlights.

On account of area of study, previous researches conducted – took into an account the effects of FCI, though not all of the components, on poverty and economic growth. For instance, Ali (2014), Hye *et al.* (2010), and Javid and Qayyum (2011) went for finding out the impact of FCI on economic growth of Pakistan. In line with the research effort on same area of study, Baharumshah and Thanoon (2006), Stallings (2007), and Prasad *et al.* (2007) also investigated for the turns and responses of economic growth against FCI, like chose by Waheed (2004) and Nkoro and Furo

(2012). Empirical lens, however, also looked for growth-debt relationship as by Qayyum *et al.* (2012), Ali (2014), and Ramzan and Ahmad (2014). However, the empirics fell short of employing all of the components of FCI, as are unveiled in theoretical glance. In supplement to the fact that most of the researches are embodied with investigation of economic growth against FCI, plenty of empirical studies are however found that appear to show the work on tracing out for the fact that how do poverty responds in against of FCI. Indeed not against all of the categorical forms of foreign capital.

In this regard, Masud and Yontcheva (2005), Boone (1996), Akmal, Ahmad, Ahmad, and Butt (2007), Goff (2010), and Ali and Nishat (2009) kept poverty as dependent variable as was done by Yasmin, Jehan, and Chaudhary (2006), Siddiqui and Kemal (2006), Irfan (2011), and Jalilian and Weiss (2002), against FCI, some of the components, as right sided variable(s). Therefore, it do appear that the past studies are narrower in their envisioning towards that of the scope of entire components of FCI and nevertheless conservative in an attempt of testifying employment effect of FCI in comprehensive mode of approach.

Different methodological choices are seen exercised by previous researchers. In this respect, commonly practiced technique of analysis is recorded to be of ARDL in the research work of Hye *et al.* (2010), Bekhet and Mugableh (2013), Bekhet and Mugableh (2016), and Javid and Qayyum (2011). However, the Generalized Least Square (GLS) and GMM were opted by Baharumshah and Thanoon (2006) and Prasad *et al.* (2007). Nevertheless, motives behind were of investigating effects of selected fewer components of FCI on economic growth and employment. In supplement to this, Masud and Yontcheva (2005) and Boone (1996) tested poverty against FCI — using OLS technique of analysis in line with research area of Ali and

Nishat (2009) and Irfan (2011) those went with ARDL, opposite to Ali (2014) and Habib and Sarwar (2013) who, while testing for economic growth against FCI, made choice of exercising cointegration technique of Johansen and Juselius (1990).

In relevant to the discussions about the area of study and methodologies, though fewer, but empirical researches do appear that enlighten about the fact that employment level has also been tested against some forms of FCI, such as (Mughal & Makhlouf, 2013; Imai *et al.*, 2014; Juselius *et al.*, 2014; Page & Söderbom, 2015). Surprisingly, much of the researches have not catered the fact that employment cannot only be formed to change in response of FDI, as those researchers apparently went for, rather all of the components of FCI have to have impacts, may or may not be in positive, on employment level of particular country. Looking into the methodologies employed in this respect, it appears that Jayaraman and Singh (2007) and Akcoraoglu and Acikgoz (2011) opted ARDL, whereas Said and Elshennawy (2010) used quantile regression method, Habib and Sarwar (2013), Inekwe (2013), and Malik *et al.* (2011) went with technique of Johansen and Juselius (1990) for finding of cointegration, unlike Revenga (1997) who selected for multiple methodologies such as TSLS and GMM. Noticing of the researches in the same context/area those based on mainly sector-wise or country-wise analysis, Rizvi and Nishat (2009), went with the panel data analysis as prescribed by Pedroni (1999), whereas, Brincikova and Darmo (2014) and Hisarcıklılar *et al.* (2014) worked with fixed effect panel and dynamic panel data estimation.

Realizing the element of contribution into the existing body of knowledge, a careful and sensitive analysis has been worked out in exploring that isn't all of the components of FCI have been tested in a singly study for their bring-up of consequences on the employment level of a particular country. It is found that

components of FCI, though in-partial, are tested against poverty and economic growth, so far. Studies found on noticing employment changes appear in against of only FDI. For instance, describing choice of variables, FDI has been core variable in studies of Braunstein and Epstein (2002), Jenkins (2006), Jayaraman and Singh (2007), Bekhet and Mugableh (2013), Hisarcıklılar *et al.* (2014), like in that of the study of Said and Elshennawy (2010), Akcoraoglu and Acikgoz (2011), and Jude and Silaghi (2016). However, Grigorian and Melkonyan (2011) and Kovtun *et al.* (2014) analyzed for hours spent for job search by recipients of remittance, whilst, Malik *et al.* (2011) looked-in for FDI together with worker remittance but still fell short of comprehensive consideration of all of the categories of FCI. Meaning that, Malik *et al.* (2011) went unconsidered for foreign debt and aid, similar to Imai *et al.* (2014). Despite of this, both variables i.e. FDI and worker remittance bearing state of multi co-linearity, appeared in single equation and despite of this, study of Malik *et al.* (2011) was based upon Pakistan only. Discussing the choice of variables selected in latest studies, all of the components of FCI, though not all of them, have been used but in against of economic growth by Ali (2014), Hye *et al.* (2010), Nkoro and Furo (2012), and for analyzing poverty by Ali and Nishat (2009), Irfan (2011), and Goff (2010), but not altogether in single study, particularly for taking into account effects of FCI on employment level.

Area of study in terms of involving country or region, in addition, appears as weigh-full in determining the scope of the present study and overall contribution into the existing body of knowledge. The literature reviewed clarifies that previous researches conducted have not taken into account the region that is highlighted in this study, particularly. This fact altogether motivates for conducting research chiefly in accord of being a beholder of weighty significance once it is discovered that all of the

categories of FCI haven't been exercised for employment disquiets mainly in an area as well as the region that this study has intended to step on.

Another motivating component is the theoretical support prevalence, though in form of untested version of perspectives, so far. FDI has been opted as independent variable in most of the studies to test for employment slippages, in against of the same. In this respect, to be precise enough, Revenga (1997) conducted his study for employment changes in manufacturing sector of Mexico, research of Braunstein and Epstein (2002) aimed to be at basing upon testing employment response in China, Jenkins (2006) chose Vietnam for finding employment response against FDI. However, employment in Fiji had been a source of concentration in research of Jayaraman and Singh (2007). In the fraternity of empirical researches, Said and Elshennawy (2010), Hisarcıklılar *et al.* (2014) and Akcoraoglu and Acikgoz (2011) looked into employment in Egypt and Turkey, Onimisi (2014) and Bekhet and Mugableh (2016) tended towards Nigeria and Malaysia, nonetheless against FDI only. Lastly, in same area of study and choice of independent variable, i.e. FDI for instance, the region targeted for basing study upon by Narender and Dhankar (2016) was India. Anwar (2002), Rizvi and Nishat (2009), Malik *et al.* (2011), Habib and Sarwar (2013), and Imran *et al.* (2013) focused on Pakistan, wherein, Rizvi and Nishat (2009) added up China and India in their study to make it equipped for a panel data analysis however, fell short of getting hold of broad version of donation to existing body of knowledge by neglecting Bangladesh and Sri Lanka those confront with same state of economic disturbances, unlike China. To add-on, Page and Söderbom (2015) and Juselius *et al.* (2014) recorded the upshots of foreign aid and employment and thus went-with Ethiopia and sub-Saharan Africa, however, the alliances of worker

remittance and employment were viewed for Armenia and Western Balkan countries (Grigorian & Melkonyan, 2011; Kovtun *et al.*, 2014).

Having a thorough vision of theoretical and empirical position of determinants of employment, whereby on the other side, FCI and their supportive behavior towards employment creation process, literature reviewed enlightens that the studies conducted so far those have evolved the findings on ground of a specific area of employment and FCI are rare, in terms of choice of variables, in contrary to what this study opts. Likewise, the entire methodologies are also found to be limited in their operation on the respective area that is unveiled in this present research. This goes together with the choice of the selected countries that are finalized in this study however, too appear to be as not expansively explored for the said cause, i.e. employment effect of FCI, in previous researches. FCI are so far channelized in partial i.e. customarily in context of FDI in tracing for the effects on employment level and not either in complete range or for SAC, thus altogether assemble as inspirations to gear up for indoctrinating all of the components of FCI in tracing out the effects on the employment creation process of first-rated SAC.

2.7 Conclusion

This chapter has identified, after visualizing theoretical standpoints and empirical researches, that there is a linkage between FCI and level of employment. Moreover, it is brought into notice that indeed not only do all the components of FCI like of FDI, foreign aid, foreign debt, and worker remittance are the sources of capital formation for their host country, rather in the past researches only some of the components of FCI are worked-with in testing for their impact on employment level. Whereas, looking towards the employment creation in against FCI, theoretical support

confirms for articulating research in taking into grip all of components of FCI. Therefore, reviewing this chapter, it has hardened that the research gap prevails in this particular area, that is; inadequate research is conducted for the evaluation of the entire components of FCI, precisely on for the problem of unemployment. On the similar note, the initialization of empirical research, within the specific area, is also seldom found on SAC. Thus in conclusion, in the light of suggestions of theories and empirical literature, this chapter has paved the ground of building up a conceptual framework that is to portray the direction(s) which help in searching out for the fact that how constituents of FCI may affect the level of employment.

CHAPTER 3

METHODOLOGY

3.1 Introduction

In succession of previous chapter, this chapter leaps one step forward in terms of further workout which is to be necessarily done before it is to empirically analyze the effects of FCI on the employment level of the selected SAC. This chapter, for instance is divided into multiple sections so as to highlight and describe for all the needful before gearing up for the empirical analyses that this study is reliant at. This chapter in particular, begins with the development of conceptual framework that is designed on the precise references of the theories and empirical researches on employment, though discussed in previous chapter in-depth, which is later followed by the hypotheses building which base on the factual information of how the opted independent variables have had interpreted, in theoretical and empirical glance, for their effects on the employment creation. Being led through the specification of the model(s), operational definitions, and measurements of the variables, this chapter at the end describes for the source(s) of data collections and the interpretations on the intended methodological and analytical techniques.

3.2 The Conceptual Framework of Research

The processes and policies followed for the creation of employment opportunities are to depend upon what tools do these courses of actions are embodied with. In complement to Lerner (1967), Lucas and Rapping (1969), and Barro (1981) who explained their ideas about determinants of employment, Pissarides (2000) and

Keynes (1936) have had focused on the availability of investment capital for the sake of employment creation.

Theorists and researchers like of Hertner and Jones (1986) and Martin (2006) had a belief that FDI is a source of flow of financial assets across the national frontiers that leads to enable in securing specialization in business which is followed up by the angle of transfer of knowledge (Hill, 2003; MacDougall, 1960). While to the view point of Dicken (1986), Pantulu and Poon (2003), Dunning and Lundan (2008), Sowell (2000), Wessels (2000), Jude and Silaghi (2016), and Sunkel (1973) altogether, this flow of capital i.e. FDI results in effecting the employment creation process by either enforced adaptation of capital intensive techniques or by enhancing exports that is a sequel of fetching low cost techniques of production, mainly by hiring cheap labor, which later results in increasing the consumption level of economy because of being at reasonable status of employment. It is this rise in consumption that, according to Keynes (1936), is required for undisrupted job creation.

If discussion is based on enforcing need of capital for employment creation, even if it is in the theme of borrowed money, as Keynes (1936) argued, Adam and O' Connell (1999) and Harris and Todaro (1970) have perception that foreign debt is a component of FCI that generates capital and thus enables in practicing for rise in speed of capital formation. This augmentation in capital formation improves infrastructure of recipient country and if agriculture based, improves state of mechanization which, for instance, is a base for creation of economic activity that hereafter reflects economic growth and development, mainly in agrarian economies (ILO, 1973). However, economic growth and development that, according to what Little and Mirrlees (1974), acknowledging Keynes (1936), out looked and perceived, result in job creation followed by upsurge in liquidity of capital.

Foreign aid, in view point of Friedman (1995), Juselius *et al.* (2014), and Page and Söderbom (2015) is a source for capital availability. This flow of capital helps in provoking projects (developmental and/or non-developmental) that in result effect employment creation process by increasing saving and investment level, in intermediate stage, of economy. Secondly; route towards employment creation followed by foreign aid is perceived by Adam and O' Connell (1999) when due to ease up of capital, government reduces taxes on general public. Such forms of tax rebates increase demand (Keynes, 1936). This rise in demand, as out looked by Isse (1988) and Little and Mirrlees (1974), helps in initializing new business that leads to gain entrepreneurial expertise which help in creating jobs by passing through enhanced state of saving and investment level of economy.

Stimulated version of capital is essential for addressing issues at macroeconomic front, exclusively employment problems (Keynes, 1936). Searching for source(s) that can enable in increasing capital availability is conceivably worker remittance, as supposed by Glytsos (1993). This rise in capital circulation altogether engages production and consumption level to keep augmenting one another in parallel that helps in consistent penetration of further production and calls for jobs openings (Stark & Bloom, 1985; Conway, 1992; Bakht & Mahmood, 1989; Imai *et al.*, 2014). This consistency in production and job opening results in translation of increase in consumption demand, which originates in reference to that of ease of capital availability, thus becomes a foundation for employment creation (Keynes, 1936).

Such positive side effects of FCI encourage in developing a conceptual framework that is to enlighten up the channel that how the size of employed labor force of an economy can be enhanced in response to FCI. A sight on Figure 3.1 makes it straightforward to comprehend that how this linkage between FCI and

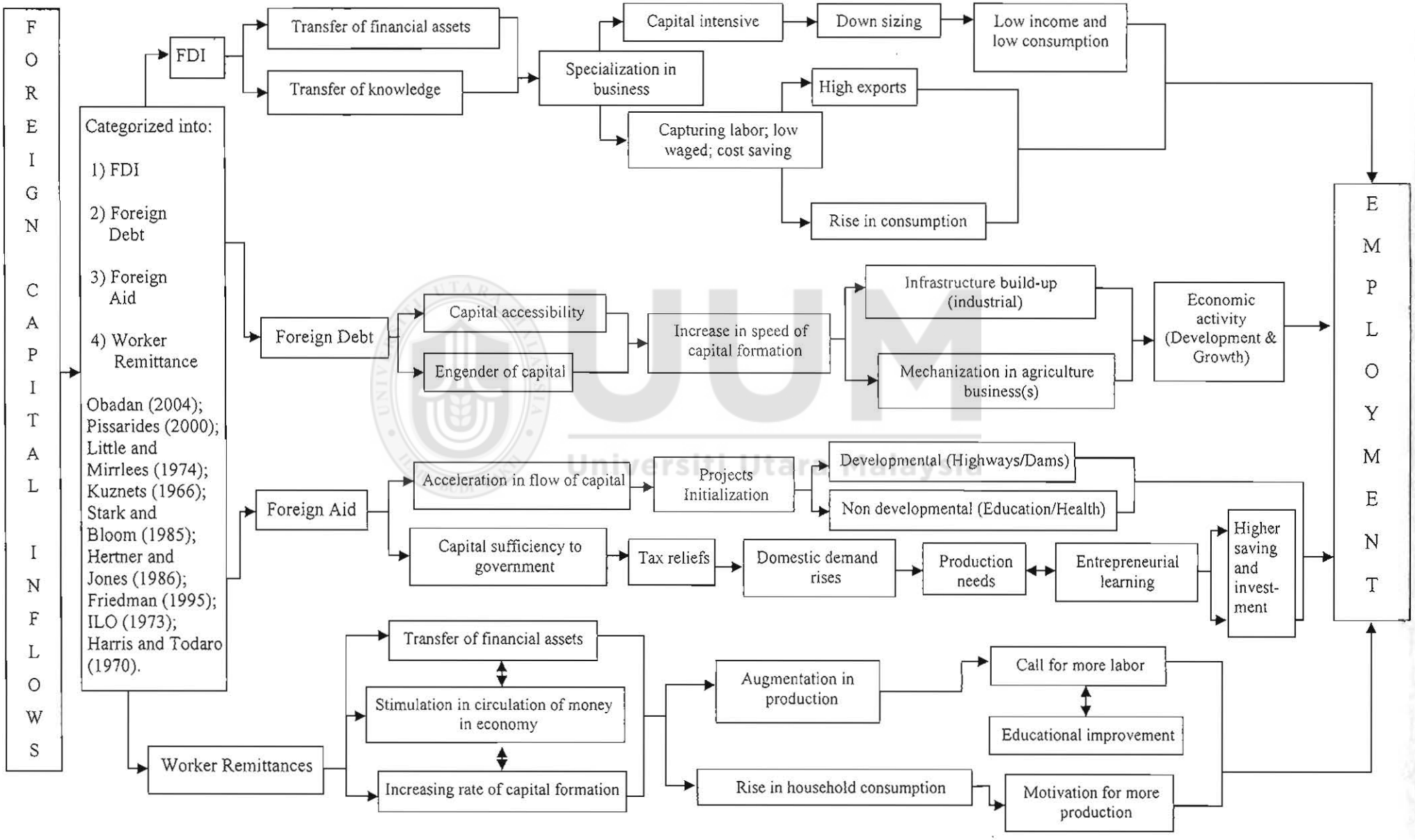


Figure 3.1 Conceptual Framework

employment growth be developed in accord of what past theories and empirical studies meant and envisioned.

3.3 The Model Specification

Next to thorough view of the conceptual framework with the strong backing of theoretical and empirical researches support, it is apparent that employment creation is not something unusual and unconcerned with the inflows of foreign capital.

While taking start from "General Theory of Employment, Interest, and Money" presented by Keynes (1936) and making it as a baseline for the development of research model, this study establishes a relationship, as explained by Keynes (1936), that is shown in Equation [1];

$$[1] \qquad EMPL = f(MPC, MEC, IR, CONS, INVT)$$

where *EMPL* represents employment, *MPC* represents marginal propensity to consume, *MEC* stands for marginal efficiency of capital, *IR* is the interest rate, *CONS*, and *INVT* express level of consumption and investment, respectively.

As indicated by Keynes (1936), theorists like of Lerner (1967) acknowledged the role of *MPC*, like of Barro (1981), and interest rate (markup) as determinant(s) of employment. However, exploring the link further, the factor that is involved as of being significant in playing its role in employment creation is the availability of capital (Kahn, 1931; Pissarides, 2000). *MEC* and *MPC* are headed at the back of capital availability (Keynes, 1936). Thus, this notion helps in linking the theories of Kahn (1931), Keynes (1936), Lerner (1967), Pissarides (2000), and Barro (1981).

Noticing the importance of capital as argued by Keynes (1936), the need is to explore for the sources of capital that can help in covering the deficiency of capital in a particular country. FCI, as were expressed by Obadan (2004) are the financial transactions like of lending of money by the governments of other countries and/or from international organizations like of banks or money lent in context of either short term or long term lending and investment in equities and direct investments, were exposed in the shape of FDI by Hertner and Jones (1986), Sunkel (1973), Kay (1989), Kemp (1966), Jones (1967), Brecher and Alejandro (1977), Onimisi (2014), and MacDougall (1960) as of being major source of capital accumulation that proceeds towards addressing up problems of unemployment.

Thus, in accordance with the relationship of employment towards FDI, the equation of employment can be written as appear in Equation [2];

$$[2] \qquad EMPL = f(FDI)$$

where *EMPL* is employed labor force and *FDI* is looked for foreign direct investment.

Though, motive of employment creation is now seem to as a subject matter related to capital availability thus exploring further the sources of foreign capital that address the said objective, Friedman (1995), Little and Mirrlees (1974), and Harris and Todaro (1970) pledged their contributions, in theoretical means, referring the perceived ideology of employment creation resting on foreign debt and foreign aid. These sources of capital inflows address up the issues of capital deficiency, economic growth, and employment (ILO, 1973; Juselius *et al.*, 2014). According to Keynes (1936), Kahn (1931), Pissarides (2000), and Page and Söderbom (2015) capital, even it is borrowed, is an important determinant of employment hikes.

In realization of the fact that foreign debt and aid are of profound impacts in supplement to FDI, on referring to the issue related to employment creation, Equation [3] can be developed;

[3] $EMPL = f(FDI, FORDBT, FORAID)$

where *FORDBT* is foreign debt and *FORAID* symbolizes foreign aid.

FCI, as explained by Obadan (2004), Ali and Nishat (2009), Khan and Khan (2011), Malik *et al.* (2011), and Mughal and Makhlouf (2013) are categorized into FDI, foreign aid, foreign debt, and worker remittance, as predicted by Conway (1992) and Stark and Bloom (1985), in theoretical and empirical lens. The arguments came up were of realization that worker remittances act as of holding strength in case of transferring the benefits to the economy in terms of altering the jobs (Kovtun *et al.*, 2014). This is however due to the increase in liquidity of money, although results in sequel of consistent flow of worker remittances, when the beholders of remittance income spend on goods and services purchase. This accelerating state of overall consumption level of economy is indeed a major player in effecting employment creation process (Keynes, 1936).

Hence, developing the concept of exogenous factors in context of their effects on employment level, Equation [3] is further developed that tends to appear in Equation [4];

[4] $EMPL = f(FDI, FORDBT, FORAID, WREM)$

whereby *WREM* signifies for worker remittances, respectively.

Based on the enlightenment about the determinants of employment, conceivably FCI, thought out by the theorists and further diversifying the horizon of independent and control variables that determine the level of employment, it is possible to be said that all the components of FCI have to have their profound effects on the employment creation process of the country that they are exported to. Hence, extending the employment model of Keynes (1936), Revenga (1997), Rivero (2007), and Malik *et al.* (2011), the model(s) of this research, in accordance with paving the ways of achieving the objectives of the study, in reference to the theoretical predictions on the existence of association between employment and FCI, are constructed in segregation of the components of FCI to employment.

On account of time series analysis on each of SAC, the models specifications appear in Equation [5] to Equation [8] are in natural-logarithmic form. However, to make the abbreviations less tedious, symbol(s) for natural log are not demonstrated.

[5] $$EMPL_t = \alpha_0 + \alpha_1 FDI_t + \alpha_2 GCF_t + \alpha_3 GDP_t + \alpha_4 INF_t + \alpha_5 LIT_t + \alpha_6 POP_t + \alpha_7 CONS_t + \varepsilon_t$$

[6] $$EMPL_t = \alpha_0 + \alpha_1 FORDBT_t + \alpha_2 GCF_t + \alpha_3 GDP_t + \alpha_4 INF_t + \alpha_5 LIT_t + \alpha_6 POP_t + \alpha_7 CONS_t + \varepsilon_t$$

[7] $$EMPL_t = \alpha_0 + \alpha_1 FORAID_t + \alpha_2 GCF_t + \alpha_3 GDP_t + \alpha_4 INF_t + \alpha_5 LIT_t + \alpha_6 POP_t + \alpha_7 CONS_t + \varepsilon_t$$

[8] $$EMPL_t = \alpha_0 + \alpha_1 WREM_t + \alpha_2 GCF_t + \alpha_3 INF_t + \alpha_4 LIT_t + \alpha_5 POP_t + \alpha_6 CONS_t + \varepsilon_t$$

where

$EMPL_t$ = Employed labor force in year t (in thousands).

FDI_t = Foreign direct investment in year t (in million USD).

$FORDBT_t$ = Foreign debt in year t (in million USD).

$FORAID_t$ = Foreign aid in year t (in million USD).

$WREM_t$ = Worker remittances in year t (in million USD).

GCF_t = Gross capital formation in year t (in million USD).

GDP_t = Gross domestic product in year t (in million USD).

INF_t = Rate of inflation (CPI) in year t (in percentage).

LIT_t = Rate of literacy in year t (in percentage).

POP_t = Population in year t (in million).

$CONS_t$ = Household final consumption expenditure in year t (in million USD)

α_i = Parameters; $i = 0, 1, 2, \ldots..7$.

ε_t = Error term.

As this study aims to carry out two dimensional approaches for analyses i.e. separate time series and panel data analyses on SAC, thus on account of panel data, the models specifications after adjusted for natural logarithm appear as in Equation [9] to Equation [12];

$$[9] \quad EMPL_{it} = \alpha_0 + \alpha_1 FDI_{it} + \alpha_2 GCF_{it} + \alpha_3 GDP_{it} + \alpha_4 INF_{it} + \alpha_5 LIT_{it} + \alpha_6 POP_{it} + \alpha_7 CONS_{it} + \varepsilon_{it}$$

$$[10] \quad EMPL_{it} = \alpha_0 + \alpha_1 FORDBT_{it} + \alpha_2 GCF_{it} + \alpha_3 GDP_{it} + \alpha_4 INF_{it} + \alpha_5 LIT_{it} + \alpha_6 POP_{it} + \alpha_7 CONS_{it} + \varepsilon_{it}$$

[11] $$EMPL_{it} = \alpha_0 + \alpha_1 FORAID_{it} + \alpha_2 GCF_{it} + \alpha_3 GDP_{it} + \alpha_4 INF_{it} + \alpha_5 LIT_{it} + \alpha_6 POP_{it} + \alpha_7 CONS_{it} + \varepsilon_{it}$$

[12] $$EMPL_{it} = \alpha_0 + \alpha_1 WREM_{it} + \alpha_2 GCF_{it} + \alpha_3 INF_{it} + \alpha_4 LIT_{it} + \alpha_5 POP_{it} + \alpha_6 CONS_{it} + \varepsilon_{it}$$

where

$EMPL_{it}$ = Employed labor force in country i in year t (in thousands).

FDI_{it} = Foreign direct investment in country i in year t (in million USD).

$FORDBT_{it}$ = Foreign debt in country i in year t (in million USD).

$FORAID_{it}$ = Foreign aid in country i in year t (in million USD).

$WREM_{it}$ = Worker remittances in country i in year t (in million USD).

GCF_{it} = Gross capital formation in country i in year t (in million USD).

GDP_{it} = Gross domestic product in country i in year t (in million USD).

INF_{it} = Rate of inflation (CPI) in country i in year t (in percentage).

LIT_{it} = Rate of literacy in country i in year t (in percentage).

POP_{it} = Population in country i in year t (in million).

$CONS_{it}$ = Household final consumption expenditure in country i in year t (in million USD)

α_i = Parameters; $i = 0, 1, 2, \ldots 7$.

ε_{it} = Error term.

3.4 Justification of the Variables

After conceptualizing the framework of this research and the model(s) construction, it is now to ink the rationalization on all of the variables that are to be worked-with in this study. This subsection in particular, enables to unveil the

operational definitions on all the variables together with the scale of measurement that mainly explains about the statistical information on all the variables that the secondary data used in this study is composed of yearly statistics. Subsequent to that, it is given brief outlook on how these variables have been channelized in the previous research work or either in theoretical footings. In sequel, all together this discipline of arrangement on all the variables for instance enables to build up hypotheses of this study.

3.4.1 Foreign Direct Investment

The FDI is the net investment inflow of capital that is used to acquire managerial interest i.e. for about 10 percent of the voting stock in certain enterprise that is being operated in a particular economy, exclusive of the investors themselves. It is an accumulated form of equity capital, the reinvestment of earnings, the long-term capital, and the short-term capital that appears on the balance of payments of an economy. This series however, is a flow of net FDI in a reporting country from foreign countries with the subtraction of the net FDI by the reporting to other countries of the world. The scale of measurement for this variable accounts for the net inflows that are new investment inflows which are exclusive of the disinvestments in a particular country from foreign investors (World Bank, 2014).

As pointed by Ricardo (1817) that once countries globalize themselves and later receive apprehend-able flow of foreign inflows, use to gain benefits in term of growing and improving their macroeconomic state of position. In this regard, FDI is pointed out as one of the integral ingredients of foreign capital. FDI is effective for the employment creation and further leads to economic growth (Borensztein *et al.*, 1998; Dunning & Lundan, 2008). Flow of FDI affects the job creation process and

does have an effect on the wage rates in the host country (Braunstein & Epstein, 2002). In general, FDI is expected as an instrument that, either positively or negatively, always brings up its impacts on the employment level of the country that receives it (Jenkins, 2006; Jayaraman & Singh, 2007; Said & Elshennawy, 2010; Akcoraoglu & Acikgoz, 2011; Inekwe, 2013; Onimisi, 2014; Jude & Silaghi, 2016). However, empirically, FDI had positive (Jayaraman & Singh, 2007; Bekhet & Mugableh, 2013), negative (Akcoraoglu & Acikgoz, 2011; Hisarcıklılar *et al.*, 2014; Jude & Silaghi, 2016) and small positive effects on employment creation process of its recipient (Braunstein & Epstein, 2002). Studies on Pakistan by Rizvi and Nishat (2009), Malik *et al.* (2011), Habib and Sarwar (2013), and Imran *et al.* (2013) also showed mixed results on account of tracing for the effects of FDI on the employment level, akin to Inekwe (2013). These jumbled results create curiosity for developing hypotheses to measure, on latest and most authentic data, the relationship between FDI and employment. Hereafter viewing the broad based importance of FDI, this study is to claim that, FDI is to pose significant effect on the employment level of SAC.

3.4.2 Foreign Debt

The foreign debt that is public and publicly guaranteed is a sum of aggregated debt dispensement carried out on long-term basis. Of the public debtor, public debts are always treated as external obligations that include the national government, autonomous public bodies, and the political subdivisions or either an agency. Debts, guaranteed publically, are the external obligatory made-up of payments for the private debtor which are guaranteed by the public entity for the repayment of the amount received. Depending on the specified year promised and later materialized, the

borrower is permitted to draw the commitments made by the debtors on accounts of the loan(s). In this respect, debt is defined as an instrument with extended maturity of either one or more than one year time that is to be repayable in forms of goods, services or either currency. Being long term borrowing on loan commitments during the number of years specified, the data on foreign debt, while summing up all of the desired statistics, are measured in aggregation sum method (World Bank, 2014).

Foreign debt like foreign aid gains equal weight-age in the glance of theories. Foreign debt, together with foreign aid, leads to enrich the capital base of their recipient country that is later helpful in transforming the economy towards economic growth via raising-up of the job horizon (Friedman, 1995). Little and Mirrlees (1974) provoked the think tanks to realize that economic growth is not something that is helped by foreign aid, debt, and grants, as was said by Rosenstein-Rodan (1943), Rostow (1956), Kuznets (1966), and Williamson (1968), rather unlike of eras of 1950's and 1960's, do fascinate the process of poverty alleviations, equal distribution of income, and nonetheless the widening of the employment base.

A view of the operational definition of foreign debt and its empirical and theoretically exposed dimensions, this study builds hypothesis that, foreign debt is to significantly affect the level of employment of SAC.

3.4.3 Foreign Aid

Foreign aid is a composition of net Official Development Assistance (ODA) which is the payment of the loans made to a particular country on the concessional terms. Nevertheless, ODA not only does include loans rather it is enclosed with the grant(s) of 25 percent discounted at 10 percent by the official agencies of Development Assistance Committee (DAC), non DAC or multilateral institutions for

the promotion of welfare and economic development in the recipient country or the territories who are enlisted in DAC documents of ODA recipients. In this respect, net official aid is referred to aid flows, in net, from the official donors to the countries or either the territories lying amongst the list of DAC. An official aid is normally the pledges under some terms and conditions in accordance with the charter of ODA and DAC. Foreign aid as of being accrued through DAC and non DAC to a particular country is the loan(s) made on concessional bases. In context of taking into an account the measurement on this particular item, the statistics on this variable are gathered in respect of method of aggregation sum (World Bank, 2014).

Theoretical and empirical evidences from the past researches validate the belief that foreign aid is an effective ingredient for the materialization of economic development. Countries who lack behind in the race of gathering sufficient capital for their needful have to rely on foreign aid, which they consider as a blessing; given that it adds to the overall capital base of the economy that in turn helps the authorities to use it for their developmental and non-developmental projects (Friedman, 1995; Adam & O' Connell, 1999; Simpasa *et al.*, 2015). Foreign aid is found efficient in job creation process (Little & Mirrless, 1974), a stimulator in respect of enhancing entrepreneurial base, reducing the dependency on borrowing of money of the government, and from future prospect, acts as a contributor to the process of economic growth (Lewis, 1954; Harris & Todaro, 1970; Isse, 1988; ILO, 1973; Juselius *et al.*, 2014). From empirical perspective, it is quite hard to find out researches that link foreign aid with employment creation. Rather researchers, like of Boone (1996), Easterly (2003), Masud and Yontcheva (2005), and Jean (2012) though concerned with foreign aid, however neglected the role of foreign aid in process of creation of capital, probably that is to facilitate the process of job creation.

As sufficiently evident that foreign aid is not away from enabling employment of host country to change, hypothesis being build is a consideration that foreign aid has to have significant effect on the level of employment of SAC.

3.4.4 Worker Remittance

Personal transfers, according to World Bank (2014), in the category of compensation to the employees are considered as being personal or worker remittances. These transfers are the accumulated form of all of the current transfers in cash either, or in form of the receivables from the non-residential households to the households residents. All of the current transfers, which circulate among the residents and nonresident personnel, are thus included in the personal transfers. Employees' compensation is referred to border income, seasonal and/or other income of the workers employed in a particular country that they are not the residents of. However, may be hired by the nonresident entities. On account of worker remittances which are the current cash transfers and receivables, the data gathered on this variable is based upon the measurement technique of aggregation sum (World Bank, 2014).

For initializing the process of job creation, availability of capital is recognized as a pre-requisite (Kahn, 1931; Keynes, 1936). Now, in investigating about the components that can help in proliferation of the capital base, as of other FCI, Glytsos (1993), Amjad (1986), and Malik *et al.* (2011) found that worker remittances help in lowering down of the unemployment pressures within the country. Worker remittances contribute to economic growth in result of the consequences that they hold in respect of an enhancement of overall consumption and investment expenditure (Bakht & Mahmood, 1989; Imai *et al.*, 2014). This increase in the consumption level, as was highlighted as heart of the employment theories of Keynes (1936) and Lerner

(1967), leads to further raise the employment level, in gradual trend. Such Inflows not only do help the very family of immigrant rather other households also in result of birth and/or re-birth of new employment activity in sequel of the hikes in consumption expenditures (Stark & Bloom, 1985). So far on empirical ground, worker remittances are found as explored for poverty alleviation by Goff (2010) and by Irfan (2011), and nonetheless, for growth by Ali (2014) and Imai *et al.* (2014).

Worker remittances being as a factor that is to affect the level of employment, as is believed, thus the hypothesis of this study, in succinct, is to publish that worker remittances have significant effect on the employment level of SAC.

3.4.5 Gross Capital Formation

Gross capital formation was formally known as gross domestic investment (World Bank, 2014). It is a composition of additional fixed assets of an economy. Not only this, rather also includes in it the net changes that tend to appear on account of the level of inventories. In this context, a component of fixed assets is termed as standardizing land part in shape of ditches, drains, fences, and miscellaneous machinery, plant purchase of equipment(s); construction and/or repair of roads, highways, railway tracks, and infrastructure like schools, hospitals, office(s), residencies of private individuals, industrial, and commercial buildings. Inventories are however the accumulated level of goods that are held by the firms in compliance with the meet up of temporary or either for-longed ups and downs in the productive and selling activity of the firm. Here, net acquisitions of valuables are also inclusive in gross capital formation. Such statistical information is thus gathered whilst measured in aggregation method on account of the criterion of gap-filled total (World Bank, 2014).

Value addition in overall base of capital formation in a country that results in response to the capital receipts which is sourced from outside the national borders contributes to the creation of new jobs (Pissarides, 2000). To Conway (1992), sound base of capital in an economy stimulates the economic activity in a way that it is reflected in the shape of not only creating new jobs for the job seekers rather even on-job employees also start finding out something more suitable for them, in terms of salary and fringe benefits. All of these dreamed situations turn up to the reality when a country initiates itself towards globalization (Malik *et al.*, 2011). Kahn (1931) got engaged in Keynes' (1936) arguments on employment with his concept of capital formation as a source of motivation for raising the level of employment. Change in the investment base, either from private sector or public sector, pumps up the level of employment in a particular country.

A base of gross capital formation changes in response to change(s) in flow of capital to a specific country or a region. Realizing the same, it is hypothesized as of being significant in its effects on employment level of SAC.

3.4.6 Gross Domestic Product

GDP at the price of purchase is a total of gross value of goods and services that are added by the resident producers operating with different business(s) in an economy inclusive of the taxes charged on them, less either of the subsidies those are not included in the products' value. GDP is calculated without the consideration of the deductions of the capital consumption allowance(s) endured on the finished good or the depletions resulted to the natural resources during production process. GDP at current USD is converted for the country specific volume of the said measure by the official exchange rate prevalence in a particular country against each corresponding

year. The set of observations in data for GDP are measured without the deduction of capital consumption allowance and hence in aggregation method in terms of gap-filled total (World Bank, 2014).

GDP growth and employment has a linkage in terms of short run and long run. It is so because growth that is a reflection of the output produced in an economy can never be achieved without employing labor force in value addition, though capital intensive techniques are being focused. Jayaraman and Singh (2007) and Aktar and Ozturk (2009) took GDP as right sided variable while estimating employment equation. However, Habib and Sarwar (2013) worked out with GDP per capita. Contrasting to Aktar and Ozturk (2009), Habib and Sarwar (2013) and Jayaraman and Singh (2007) found two cointegration relationship in case of employment and GDP. However, these studies, in precise, found GDP as positively effecting employment level. Causality was also found while tracing for the direction of change in employment and GDP. Thus, as found evident in previous studies, GDP is opted as major right sided variable in the equation of employment, like of Jayaraman and Singh (2007), Aktar and Ozturk (2009), and Habib and Sarwar (2013).

A precise view of past researches ensures that GDP and employment level are related to one another. Thus, this study hypothesizes that, employment level of SAC is significantly affected by the GDP.

3.4.7 Inflation

An inflation is an annual percentage change in price level of an economy on account of average consumer, while is acquiring for the basket of goods and services. This annual percentage change on account of the prices of goods and services may alter at the specific time interval or are fixed on yearly basis. Rate of inflation is

measured in terms of Consumer Price Index (CPI) by using Laspeyres formula, which is to reflect the annual percentage changes in cost of buying goods and services that may or may not be fixed for specific interval, however, on yearly period of time (World Bank, 2014).

Lerner (1967) brought into being that once there is too much spending of money by the government; this increases the circulation of money in the economy. This increase in money circulation leads to raise the level of demand, but if in other way a country does not have the productive capacity available, subsists into the inflationary trap. This inflation level negatively affects the policies of the government in addressing up unemployment pressures. Earlier, Keynes (1936) also meant the same in transposing the argument in relation to an interest rate volatility that may originate in consequence of inflation that hereafter, upsets the employment. Economic growth results in response to growth in the level of employment whereby, inflation acts as a deterrent in the way of achieving economic growth (Javid & Qayyum, 2011; Ramzan & Ahmad, 2014).

Inflation affects the position of other macroeconomic variables in a particular country in which employment level for instance appears as not far away from being affected, either in direct or indirect approach. In notice of this notion, this study hypothesizes rate of inflation as significant in its effects on the level of employment in SAC.

3.4.8 Rate of Literacy

Rate of literacy represents for the total percentage of population that is of the age of 15 years and above who can read, understand, and write even a simpler statement in practices of everyday life. In general, it is also meant of making its

adherent understand and make out simple arithmetic calculations. It is measured by dividing pupil of 15 year and above (literate, as by the definition) by the total age group population that corresponds to the same bracket by 100 (World Bank, 2014).

Literacy and employment level have a strong connection, either in positive or in negative (Stark & Bloom, 1985; Wagner, Spratt, Klein, & Essaki, 1989; Malik *et al.*, 2011). Analyzing effects of globalization on employment, Malik *et al.* (2011) found literacy rate as of negative in correlation, being one of the control variables, whilst looking into employment level of Pakistan. Secondly; testing for response of literacy in children till grade five who return for their re-access to the schooling after break of two years on employment, Wagner *et al.* (1989) found less job opportunities for females than that of males. Nevertheless, level of education, if is improved, leads to partially evade unemployment pressures. The propensity of jobs secured in this respect accelerates when worker remittances enter into the money circulation as a catalyst in terms of increasing business activity of an economy, backed at human capital formation (Stark & Bloom, 1985; Vidal, 1998).

The hypothesized version for the present study is to suggest that; employment level in SAC is significantly affected by rate of literacy.

3.4.9 Level of Population

The operational definition for total level of population bases upon the de factor definition of population. It, however, takes into account sum of all the residents of a particular country despite of the statuses of the citizens (legal or illegal). In this respect, the refugees those tend to settle in a country of asylum are not treated as residents of that very country or a state, rather are counted as a part of their respective country. The statistics are measured in against of midyear estimates accounting for all

the residents those are an inclusion of all of the residents located in a country at same point in time, except of sanctuaries (World Bank, 2014).

Rate of increase in population has a significant contribution in its lead to creating unemployment in a particular country or a state (De Jong & Gardner, 1981). On the no dissimilarly on the notion, Frank (1968) also viewed problem of unemployment and underemployment through the eye of population growth rate as of being its prime cause, in Africa. However, in this respect, Bencivenga and Smith (1997) claimed interplay between population rise and migration that possibly leads to the building up of temporary pressures of unemployment whilst later acts as an un-interrupted source of growth of economy.

In accordance with the state of position of unemployment to the population, the hypothesis of the study inks that population growth is to significantly affect the level of employment in SAC.

3.4.10 Level of Consumption

It is a final consumption expenditure of households that was formally known to be as private consumption expenditure. It is a market value of all of the goods and services that include durable products such as car, washing machine, home computers etc. those are purchased by the household(s). In exclusive of the purchase of dwelling, it is inclusive of imputed rents of the dwellings which are occupied by their owners. Furthermore, it includes expenditure endured on acquiring of permits and/or licenses from the government. The measurement tool for the said variable is based on summative form of the total consumption expenditure of the household, on categories mentioned as above, by method of gap-filled total (World Bank, 2014).

Consumption is one of the important determinants of employment (Keynes, 1936; Lerner, 1967; Barro, 1981). To Keynes (1936), persistent rise in the level of consumption not only does help in enhancing confidence in doing business rather, in complement to that, enlarge the employment base of a country. Theorists like of Keynes (1936) considered MPC as strong determinant of employment that was later acknowledged by Lerner (1967). Real Business Cycle Theory of Barro (1981) stands on the same footings that realized consumption as of being a component that defines the state of employment. However, together consumption and employment depend upon the flow of capital to keep them both unfreeze (Keynes, 1936; Pissarides, 2000). For instance, consumption that effects employment creation is to be consistently present along with that of all the initiated investment of capital (Keynes, 1936). Thus, the relationship appears in the triangular of employment, capital, and consumption in which consumption becomes determinant of employment and investment that outlines income is what consumption depends upon (Keynes, 1936).

Therefore, the hypothesis build up in line with the directions of effects of consumption on employment is exposed to be as; consumption expenditure being significant in its effects on the employment level of SAC.

3.5 Sources of Data

Firstly, for the analyses on individual SAC, the data is collected for the period of 43 years i.e. from 1972 to 2014 for Pakistan. For rest of countries, to execute country-wise and panel data analyses that is to include Pakistan too, availability of bona fide data on the variables range from 1980 to 2014, i.e. for 35 years. Altogether, this need for the secondary data is exported from the authentic data sources, on annual basis, like of SBP, MFGOP, World Bank Development Indicators (WBDI),

International Labor Organization Statistics and Databases (ILOSD), United Nations Statistics Division (UNSD), Statistics Department, Bangladesh (SDB), MFGOI, and MFGOSL, respectively.

This study primarily relies upon secondary data. Thus, according to Neuman (1994), is considered to be as secondary analyses research. In line with research questions pointed out in this study, though the statistical information collected from multiple sources are reorganized accordingly however, the desired statistical data on all the variables is out-sourced from previously collected information, published at the domain of authentic data bases, mentioned afore.

3.6 Methods of Analyses

This study is aimed at employing two approaches of analyses. First is an exclusive time series analytical approach that is adopted in achieving the desired objectives of the study, solely on each of the chosen SAC. Second part of the analysis is rested upon panel data that enables to publish the desired empirical information, in-line with the objectives of the study furbished heretofore, at the selected SAC.

Reason behind the adoption of two different techniques of analyses is to have in-depth analyses of the possible association of each of the variant of FCI with employed labor force at the preferred SAC. It is to be enabled in-texting the individual effects of each of FCI component at either of SAC as well as on side of panel data. Moreover, referring to the accessibility toward the specific length of data, also do not restrict for executing empirical research and promptly meet the criteria of initiating empirical analyses, thus is dealt-with for the desired accomplishment of the objectives of study, for looking into the deeds of changes in employed labor force in response to the FCI in the selected South Asian region.

3.6.1 Time Series Analyses

Under time series analysis, standard procedure method employs standard stationary analysis and ARDL method that is exercised for finding out long run and short run relationship amongst the variables of the model(s).

3.6.1.1 Test of Stationarity

When testing the properties of time series and cointegration, the initial step is the consideration of the degree of integration of each of the variable in the equation. It is to check whether the series is stationary or not. Thus, test of non stationarity is a usual practice in empirical research. Hereafter, when all the individual series are gone through test of integration on common order and are found integrated on same order then test of cointegration is to be implied (Asteriou, 2006). The concept of stationarity is however important in case of time series analysis. Time series is considered to be as of bearing property of stationarity; if mean reversion in that series fluctuates by constant long run mean, has to have finite variance for time variant, and indeed to have theoretical correlogram which tends to diminish whenever lag length increases (Asteriou, 2006).

Test of stationarity is standardized test for unit root that checks for the order of integration in the series of data. The statistics are checked with constant and constant trend that test for the null hypothesis H_0 of non-stationarity or the existence of unit root in against of the alternative hypothesis H_1 of stationarity and/or no being of unit root. This is normally in negative number, for instance more negative is the value, stronger are to be the chances for the rejection of unit root existence. DF (1979, 1981) brought forward the procedural explanations in order to formally test for the unit root or non-stationarity. Herein, the suggested test is of DF (1979, 1981) which examines

for the stationarity of the series. The functional form of the model is represented as in Equation [13];

[13] $y_t = \delta y_{t-1} + \varepsilon_t$

where y_t represents all the variables in time series t, ε_t is white noise[3], and δ is looked for the condition of stationarity. In Equation [13], the need is to check for whether $\delta = 1$ and hence has to have either the existence of unit root or elsewhere. In this case, H_0: $\delta = 1$ and H_1: $\delta < 1$.

More conveniently, subtracting from Equation [13] y_{t-1} from both sides, Equation [14] to Equation [16] are got.

[14] $y_t - y_{t-1} = \delta y_{t-1} - y_{t-1} + \varepsilon_t$

[15] $\Delta y_t = (\delta - 1) y_{t-1} + \varepsilon_t$

[16] $\Delta y_t = \varphi y_{t-1} + \varepsilon_t$

Having known this that φ equals $(\delta - 1)$, H_0 is that; $\varphi = 0$ and the H_1 is that $\varphi < 0$. In this respect, if $\varphi = 0$, y_t is supposed to follow pure random-walk model. DF (1979), while devised procedures of examining unit root existence, also proposed two more regression equations based on checking for the drift in random-walk, as appear in Equation [17], and apart from drift the existence of non-stochastic time trend in model, as in Equation [18].

[17] $\Delta y_{t-1} = \beta_0 + \varphi y_{t-1} + \varepsilon_t$

[18] $\Delta y_{t-1} = \beta_0 + \beta_2 t + \varphi y_{t-1} + \varepsilon_t$

Whereas, in all the cases, the test is concerned with whether $\varphi = 0$. The DF-test takes into account that there is no problem of unit root existence and/or non stationarity, if the computed DF-statistical value (t) is held smaller than that of the critical value.

Knowing that an error term is likely to be as unequal to white noise, extended version of DF test was proposed by DF (1981) namely ADF which represents for the inclusion of extra lagged terms of dependent variables for the avoidance of the problem of autocorrelation (Asteriou, 2006). The ADF test for the checking of stationarity is signified as in Equation [19] to Equation [21];

[19] $\Delta y_t = \varphi y_{t-1} + \sum_{i=1}^{p} \alpha_i \Delta y_{t-1} + \varepsilon_t$

[20] $\Delta y_t = \beta_0 + \varphi y_{t-1} + \sum_{i=1}^{p} \alpha_i \Delta y_{t-1} + \varepsilon_t$

[21] $\Delta y_t = \beta_0 + \varphi y_{t-1} + \beta_2 t + \sum_{i=1}^{p} \alpha_i \Delta y_{t-1} + \varepsilon_t$

where the difference in the regression Equation [19] to Equation [21] is concerned with the presence of deterministic elements i.e. β_0, $\beta_2 t$, $\Delta y_{t-1} = (y_{t-1} - y_{t-2})$, $\Delta y_{t-1} = (y_{t-2} - y_{t-3})$, and ε_t is white noise error. While checking for the estimates of

φ ; if the *t-value* of φ exceeds the critical value, y is to be considered as non stationary.

The theory of distribution that supports DF (1981) bases on assumption that error terms are independent with constant variance. In this respect, for some of the series, Ng and Perron (2001) is also used to check the state of unit root. Ng and Perron (2001), while generalizing ADF procedure relied upon GLS de-trend data Y_t^d. The *t*-statistics are the modified version of Phillips and Perron (1988) statistics such as; Z_a and Z_t and Bhargava (1986) R_1 statistics – with the optimal point statistic.

As of proceeded through the test of stationarity, the next step is to examine for the state of weak exogeneity and later the existence of short run and long run relationship among the variables. The application(s) of methodology for checking of the relationship among the variables in time series analysis are given in the proceedings.

3.6.1.2 Test of Weak Exogeneity

The literature contains two tests of cointegration that are of Engle and Granger (1987) and of Johansen and Juselius (1990). However, test of cointegration was introduced by Granger (1981) that further got elaborated by Engle and Granger in (1987), Engle and Yoo (1987), Phillips and Ouliaris (1990), Stock and Watson (1988), Phillips (1986, 1987), Johansen (1988, 1991, 1995), and Johansen and Juselius (1990). In case of multivariate analysis; technique of Johansen and Juselius (1990) and of Johansen (1988, 1995) are commonly used[4]. Despite of this, in recent times, an analytics of finding out cointegration is the approach, introduced by Pesaran and Shin (1995, 1999), of ARDL model, that has gained unusual popularity[5].

In case of ARDL approach, test of weak exogeneity is of a stand point to check whether the variables in the model exhibit weak exogeneity and are either considered as endogenous. It is because, according to Dritsakis (2011), one of the econometric advantages of ARDL, in comparison to other cointegration tests, is that all the variables in a model are assumed as endogenous. Johansen (1992) brought forward a fact that VECM, as appear in Equation [26] to Equation [29], is necessarily be tested in terms of full system framework due to the influence of the assumption of weak exogeneity on dynamic properties of unrestricted VECM. In this regard, under Granger causality, Wald test in context of block exogeneity is exercised to investigate whether it can be considered exogenous, the endogenous variables of the model[6]. Despite of this, standard likelihood in Johansen's method is to find out the rejection of reduced rank. Assuming that one cointegrating relation appears in VECM, solving problem of modified Eigen value, as indicated by Johansen (1995), further helps in examining of the fact that either endogenous variables are weakly exogenous as of being parameters of Vector Error Correction framework.

3.6.1.3 Selection of Lag Length

The ARDL is reliant upon the optimal model that is computed by the mean of the selection of specific lag length, given the attributes of the data (annual). For the said purpose, latest to weak exogeneity test, the selection of maximum lag length is driven out by the implying of Akaike Information Criteria (AIC) and nevertheless, together by Schwarz Criteria (SC). The optimal lag length is however verified by the computed results on the said criterion. That is; lowest computed value on the AIC and SC.

3.6.1.4 Selection of Optimal Models of Autoregressive Distributed Lag

Given that optimal lag lengths are suggested under the AIC and SC criteria, the next strides are towards the selection of the optimal ARDL model(s) for time series SAC. The estimated model is said to be optimal provided it holds significant *F*-statistic. Durbin-Watson (DW) statistic must also be higher than the corresponding upper bound critical value of DW to reject the state of the existence of autocorrelation. Furthermore, the model should pass all the analytics such as; serial correlation, heteroscedesticity, normality, functional form, and CUSUM and CUSUMSQ for the structural instability.

3.6.1.5 General Modeling of Autoregressive Distributed Lag

This section in particular, highlights the general modeling of ARDL for the derivation of general form of ECM. The general model of ARDL is represented as in Equation [22];

[22] $ARDL(p, q_1, q_2, q_3, \ldots q_7)$

where p is the lag of dependent variable and $q_1, q_2, q_3, \ldots, q_7$ are the order(s) of ARDL model. According to Pesaran *et al.* (2001), in general form, the model of VAR is constructed to apply bound test for the estimation of long run relationship. The general VAR model appears in Equation [23];

[23] $$X_t = \alpha_0 + \beta t + \sum_{i=1}^{p} \delta_i X_{t-i} + \varepsilon_t$$

where t = 1,2,3,….,T, and α_0 represents $(k+1)$ — vector of the intercepts (drift). However, β is a trend coefficient of $(k+1)$ — vector. As elaborated by Pesaran *et al.* (2001), further derivation of vector equilibrium in respect of conditional VECM can be written as in Equation [24];

$$[24] \quad \Delta X_t = \alpha_0 + \beta t + \gamma_{X_{t-1}} + \sum_{i=1}^{p} \Gamma_i \Delta X_{t-i} + \varepsilon_t$$

where t = 1,2,….,T, and $(k+1) \times (k+1)$ — matrices $\gamma = I_{k+1} + \sum_{i=1}^{p} \Psi_i$ and $\Gamma_i = \sum_{j=i+1}^{p} \Psi_j$ are the demonstration of long run multipliers and the short run dynamic coefficients of VECM, respectively. Whereas X_t is a vector of all the variables in the model. If X_t is the dependent variable and Y_t is the vector matrix of all the independent variables forcing for I(0) and/or I(1) respectively and is identical and independent in distribution with zero mean error vector, the conditional version of VECM in ARDL may be portrayed as in Equation [25].

$$[25] \quad \Delta X_t = c_{X0} + \beta t + \delta_{XX} X_{t-1} + \delta_{YY} Y_{t-1} + \sum_{i=1}^{p-1} \lambda \Delta X_{t-i} + \sum_{i=1}^{q-1} \xi_i \Delta Y_{t-i} + \varepsilon_t ,$$

$$t = 1,2,\ldots,T.$$

Tracing the relationship of FCI with the employment level of each of SAC, the representation of unrestricted ECM, under ARDL approach, is shown in Equation [26] to Equation [29].

[26]
$$\Delta EMPL_t = \alpha_0 + \beta_1 EMPL_{t-1} + \beta_2 FDI_{t-1} + \beta_3 GCF_{t-1} + \beta_4 GDP_{t-1} + \beta_5 INF_{t-1} + \beta_6 LIT_{t-1} + \beta_7 POP_{t-1} + \beta_8 CONS_{t-1} + \sum_{i=1}^{p} \rho_1 \Delta EMPL_{t-i} + \sum_{i=0}^{q_1} \rho_2 \Delta FDI_{t-i} + \sum_{i=0}^{q_2} \rho_3 \Delta GCF_{t-i} + \sum_{i=0}^{q_3} \rho_4 \Delta GDP_{t-i} + \sum_{i=0}^{q_4} \rho_5 \Delta INF_{t-i} + \sum_{i=0}^{q_5} \rho_6 \Delta LIT_{t-i} + \sum_{i=0}^{q_6} \rho_7 \Delta POP_{t-i} + \sum_{i=0}^{q_7} \rho_8 \Delta CONS_{t-i} + \varepsilon_t$$

[27]
$$\Delta EMPL_t = \alpha_0 + \beta_1 EMPL_{t-1} + \beta_2 FORDBT_{t-1} + \beta_3 GCF_{t-1} + \beta_4 GDP_{t-1} + \beta_5 INF_{t-1} + \beta_6 LIT_{t-1} + \beta_7 POP_{t-1} + \beta_8 CONS_{t-1} + \sum_{i=1}^{p} \rho_1 \Delta EMPL_{t-i} + \sum_{i=0}^{q_1} \rho_2 FORDBT_{t-i} + \sum_{i=0}^{q_2} \rho_3 \Delta GCF_{t-i} + \sum_{i=0}^{q_3} \rho_4 \Delta GDP_{t-i} + \sum_{i=0}^{q_4} \rho_5 \Delta INF_{t-i} + \sum_{i=0}^{q_5} \rho_6 \Delta LIT_{t-i} + \sum_{i=0}^{q_6} \rho_7 \Delta POP_{t-i} + \sum_{i=0}^{q_7} \rho_8 \Delta CONS_{t-i} + \varepsilon_t$$

[28]
$$\Delta EMPL_t = \alpha_0 + \beta_1 EMPL_{t-1} + \beta_2 FORAID_{t-1} + \beta_3 GCF_{t-1} + \beta_4 GDP_{t-1} + \beta_5 INF_{t-1} + \beta_6 LIT_{t-1} + \beta_7 POP_{t-1} + \beta_8 CONS_{t-1} + \sum_{i=1}^{p} \rho_1 \Delta EMPL_{t-i} + \sum_{i=0}^{q_1} \rho_2 \Delta FORAID_{t-i} + \sum_{i=0}^{q_2} \rho_3 \Delta GCF_{t-i} + \sum_{i=0}^{q_3} \rho_4 \Delta GDP_{t-i} + \sum_{i=0}^{q_4} \rho_5 \Delta INF_{t-i} + \sum_{i=0}^{q_5} \rho_6 \Delta LIT_{t-i} + \sum_{i=0}^{q_6} \rho_7 \Delta POP_{t-i} + \sum_{i=0}^{q_7} \rho_8 \Delta CONS_{t-i} + \varepsilon_t$$

[29]
$$\Delta EMPL_t = \alpha_0 + \beta_1 EMPL_{t-1} + \beta_2 WREM_{t-1} + \beta_3 GCF_{t-1} + \beta_4 INF_{t-1} + \beta_5 LIT_{t-1} + \beta_6 POP_{t-1} + \beta_7 CONS_{t-1} + \sum_{i=1}^{p} \rho_1 \Delta EMPL_{t-i} + \sum_{i=0}^{q_1} \rho_2 \Delta WREM_{t-i} + \sum_{i=0}^{q_2} \rho_3 \Delta GCF_{t-i} + \sum_{i=0}^{q_3} \rho_4 \Delta INF_{t-i} + \sum_{i=0}^{q_4} \rho_5 \Delta LIT_{t-i} + \sum_{i=0}^{q_5} \rho_6 \Delta POP_{t-i} + \sum_{i=0}^{q_6} \rho_7 \Delta CONS_{t-i} + \varepsilon_t$$

whereas, long run multiplier(s) are represented-in as β_i and ρ_i, the short run dynamic parameters of ARDL. White noise is looked-in as ε_i, sign of first difference or consecutive year difference is shown-in as Δ and $(p, q_1, q_2, ..., q_7)$ are the orders of ARDL.

The ARDL approach of finding correlation among the variables proceeds in three stages. In this respect, first stage is an examining of long run relationship existence among the variables by exercising Bound Test. In this case, locating for the value of *F*-statistics, (Wald Test) is worked-with. When evidence is found that there exists long run relationship, the second stage is the estimation of long run coefficient which is followed by the third stage of finding out the short run relationship by the mean of ECM.

3.6.1.6 Bound Test for Cointegration

The initial step is the finding of long run relationship between the variables in the model. In this respect, Pesaran *et al.* (2001) introduced procedure of Bound test for the estimation of whether the variables in the model have to have a long run relationship existence among them or elsewhere. Long run relationship is however, essential to exist before the parameters are estimated. For this purpose, method of OLS is employed on Equation [26] to Equation [29] in order to trace the value of *F* or Wald statistics for joint significance of parameters of lagged variables, for example; H_0: $\beta_1 = \beta_2 = \beta_3 = ... = \beta_7 = 0$ is referred to that of no cointegration against that of H_1: $\beta_1 \neq \beta_2 \neq \beta_3 \neq .....\neq \beta_7 \neq 0$ which is to make known the existence of cointegration.

H_0 in Equation [26] to Equation [29] shows that lagged variable(s) exhibit no long run relationship and H_1, however, reflects for existence of long run relationship. Whereas, H_0 is possibly tested by the mean of working out *F*-statistics that is; if *F*-statistics appear to be greater than upper bound critical value, H_0 is rejected and otherwise. Despite of this, *F*-statistic shows inconclusive test value, if it appears to be in between upper and lower bound critical value (Narayan, 2004)[7].

3.6.1.7 Estimation of Long Run Coefficients

Whilst long run relationship exists, the coefficients of long run are computed by modifying Equation [5] to Equation [8], thus appear in Equation [30] to Equation [33].

[30] $$EMPL_t = \alpha_0 + \sum_{i=1}^{p} \eta_1 EMPL_{t-i} + \sum_{i=0}^{q_1} \eta_2 FDI_{t-i} + \sum_{i=0}^{q_2} \eta_3 GCF_{t-i} + \sum_{i=0}^{q_3} \eta_4 GDP_{t-i} + \sum_{i=0}^{q_4} \eta_5 INF_{t-i} + \sum_{i=0}^{q_5} \eta_6 LIT_{t-i} + \sum_{i=0}^{q_6} \eta_7 POP_{t-i} + \sum_{i=0}^{q_7} \eta_8 CONS_{t-i} + \varepsilon_t$$

[31] $$EMPL_t = \alpha_0 + \sum_{i=1}^{p} \delta_1 EMPL_{t-i} + \sum_{i=0}^{r_1} \delta_2 FORDBT_{t-i} + \sum_{i=0}^{r_2} \delta_3 GCF_{t-i} + \sum_{i=0}^{r_3} \delta_4 GDP_{t-i} + \sum_{i=0}^{r_4} \delta_5 INF_{t-i} + \sum_{i=0}^{r_5} \delta_6 LIT_{t-i} + \sum_{i=0}^{r_6} \delta_7 POP_{t-i} + \sum_{i=0}^{r_7} \delta_8 CONS_{t-i} + \varepsilon_t$$

[32] $$EMPL_t = \alpha_0 + \sum_{i=1}^{p} \gamma_1 EMPL_{t-i} + \sum_{i=0}^{s_1} \gamma_2 FORAID_{t-i} + \sum_{i=0}^{s_2} \gamma_3 GCF_{t-i} + \sum_{i=0}^{s_3} \gamma_4 GDP_{t-i} + \sum_{i=0}^{s_4} \gamma_5 INF_{t-i} + \sum_{i=0}^{s_5} \gamma_6 LIT_{t-i} + \sum_{i=0}^{s_6} \gamma_7 POP_{t-i} + \sum_{i=0}^{s_7} \gamma_8 CONS_{t-i} + \varepsilon_t$$

[33] $$EMPL_t = \alpha_0 + \sum_{i=1}^{p} \lambda_1 EMPL_{t-i} + \sum_{i=0}^{v_1} \lambda_2 WREM_{t-i} + \sum_{i=0}^{v_2} \lambda_3 GCF_{t-i} + \sum_{i=0}^{v_3} \lambda_4 INF_{t-i} + \sum_{i=0}^{v_4} \lambda_5 LIT_{t-i} + \sum_{i=0}^{v_5} \lambda_6 POP_{t-i} + \sum_{i=0}^{v_6} \lambda_7 CONS_{t-i} + \varepsilon_t$$

Whereas, in Equation [30] to Equation [33], α_0 is an intercept; $(\eta, \delta, \gamma, \lambda)$ represent coefficients of long run, order of ARDL are (p, q_i, r_i, s_i, v_i), and ε_t is an error term.

3.6.1.8 Estimation of Short Run Coefficients

Short run dynamics are estimated by the mean of Equation [34] to that of Equation [37].

[34] $$\Delta EMPL_t = \alpha_0 + \sum_{i=1}^{P} \eta_1 \Delta EMPL_{t-i} + \sum_{i=0}^{q_1} \eta_2 \Delta FDI_{t-i} + \sum_{i=0}^{q_2} \eta_3 \Delta GCF_{t-i} + \sum_{i=0}^{q_3} \eta_4 \Delta GDP_{t-i} + \sum_{i=0}^{q_4} \eta_5 \Delta INF_{t-i} + \sum_{i=0}^{q_5} \eta_6 \Delta LIT_{t-i} + \sum_{i=0}^{q_6} \eta_7 \Delta POP_{t-i} + \sum_{i=0}^{q_7} \eta_8 \Delta CONS_{t-i} + \omega ECT_{t-1} + \varepsilon_t$$

[35] $$\Delta EMPL_t = \alpha_0 + \sum_{i=1}^{P} \delta_1 \Delta EMPL_{t-i} + \sum_{i=0}^{r_1} \delta_2 \Delta FORDBT_{t-i} + \sum_{i=0}^{r_2} \delta_3 \Delta GCF_{t-i} + \sum_{i=0}^{r_3} \delta_4 \Delta GDP_{t-i} + \sum_{i=0}^{r_4} \delta_5 \Delta INF_{t-i} + \sum_{i=0}^{r_5} \delta_6 \Delta LIT_{t-i} + \sum_{i=0}^{r_6} \delta_7 \Delta POP_{t-i} + \sum_{i=0}^{r_7} \delta_8 \Delta CONS_{t-i} + \omega ECT_{t-1} + \varepsilon_t$$

[36] $$\Delta EMPL_t = \alpha_0 + \sum_{i=1}^{P} \gamma_1 \Delta EMPL_{t-i} + \sum_{i=0}^{s_1} \gamma_2 \Delta FORAID_{t-i} + \sum_{i=0}^{s_2} \gamma_3 \Delta GCF_{t-i} + \sum_{i=0}^{s_3} \gamma_4 \Delta GDP_{t-i} + \sum_{i=0}^{s_4} \gamma_5 \Delta INF_{t-i} + \sum_{i=0}^{s_5} \gamma_6 \Delta LIT_{t-i} + \sum_{i=0}^{s_6} \gamma_7 \Delta POP_{t-i} + \sum_{i=0}^{s_7} \gamma_8 \Delta CONS_{t-i} + \omega ECT_{t-1} + \varepsilon_t$$

[37] $$\Delta EMPL_t = \alpha_0 + \sum_{i=1}^{P} \lambda_1 \Delta EMPL_{t-i} + \sum_{i=0}^{v_1} \lambda_2 \Delta WREM_{t-i} + \sum_{i=0}^{v_2} \lambda_3 \Delta GCF_{t-i} + \sum_{i=0}^{v_3} \lambda_4 \Delta INF_{t-i} + \sum_{i=0}^{v_4} \lambda_5 \Delta LIT_{t-i} + \sum_{i=0}^{v_5} \lambda_6 \Delta POP_{t-i} + \sum_{i=0}^{v_6} \lambda_7 \Delta CONS_{t-i} + \omega ECT_{t-1} + \varepsilon_t$$

Whereas, in Equation [34] to [37], (p, q_i, r_i, s_i, v_i) are viewed as order(s) of ARDL. Short run parameters are conferred with sign of summation; $(\eta, \delta, \gamma, \lambda)$ represent short run coefficients of variables, ε_t is the error term, and ω is coefficient of ECT that shows the speed of the adjustment towards long run equilibrium. For the confirmation of convergence, the coefficient of ECT is necessarily be statistically significant and indeed of bearing negative sign and to be in the range $1 < \omega < 0$.

3.6.1.9 Test of Impulse Response Function

It is because of the interest that is build up in this study to measure the response of dependent variable in against of exogenous shock in independent variable(s); therefore, it is scrutinized by method of IRVD. It helps in tracing out for the determination of the effect on dependent variable at SAC in response to one time shock in exogenous component of the equation. According to Lanne and Nyberg (2014), IRF and Forecast Error Variance Decomposition (FEVD) function possess differences among one another in order of their interpretations. Economic meanings are indeed found on account of IRF. While carrying economic meanings, IRF are possibly uncorrelated. On the other hand, FEVD, to the given equation that is developed in a particular model, is to show merely a shock. Since making use of IRVD is of due importance[8], the matter of core interest is to see the sights of the perspective(s) of reactions of employment against the endogenous components of the system in result of any of the exogenous shocks that tend to come into view on the component of FCI, being considered.

However, in general, all of the variables those appear in a model that is indeed developed on sound economic theories do appear not to be uncorrelated to each other. Thus, IRVD explains for the shock/innovation on each variable in response to the total effects of all of the innovations in particular time period, somehow may appear nebulous and not that definite in order.

Accounting for the variance decomposition and innovation, following functional form as appear in Equation [38] is to begin with,

[38] $\phi(L)y_t = \varepsilon_t$

where according to VAR (p) model, $\phi(L) = I - \phi_1 L - \phi_2 L^2 - ... - \phi_p L^p$ is a lag polynomial (matrices). Provided condition for stationary is with-held, the representation of vector y_t is to be represented in Equation [39].

[39] $$y_t = \phi^{-1}(L)\varepsilon_t = \varepsilon_t + \sum_{i=1}^{\infty} \psi_i \varepsilon_t^{-i}$$

Here ψ_i is an $m \times m$ coefficient matrix. The term ε_t represents the shock in the system and in order of having a unit shock in ε_t — the effects on y are looked as in Equation [40].

[40] $$\psi_s = \frac{\alpha y_t + s}{\alpha \varepsilon_t}$$

In Equation [40], ψ is interpreted as a marginal effect or the response of a model to a unit shock or an innovation at time point of t in each of the variable, which are, in economic terms, dynamic multipliers. If on vector y_{t+s} ; δ_1, δ_2 ... δ_m are the changes appear in first, second and up to m^{th} element in ε_t, the value of vector can be written as in Equation [41];

[41] $$\Delta y_{t+s} = \frac{\sigma y_{t+s}}{\sigma \varepsilon_{1t}} \delta_1 + ... + \frac{\sigma y_{t+s}}{\sigma \varepsilon_{mt}} \delta_m = \psi_s \delta$$

where $\delta' = (\delta_1, \ldots \delta_m)$ and response of y_i to unit shock in y_j, when represented in sequence, innovation in current and future value of endogenous variable(s) thus appear as in Equation [42];

[42] $\psi_{ii},1, \psi_{ii},2, \psi_{ii},3, \ldots$

where $\psi_{ii,k}$ is ij^{th} element of matrix $\psi_k (i, j = 1, \ldots m)$.

If, contemporaneously, the components of ε_t correlate to each other, meaning that having overlapping information up to some extent, develop interest to explore how new information pertained in y_{it} revise the forecasts on y_{t+s}. Thus, signaling out individual effect, the residuals are to be orthogonalized in order to make them contemporaneously uncorrelated. Hence they are serially uncorrelated already[9]. Importantly, ordering of variables is required for persistent result. To do so, recursive VAR at Cholesky decomposition criteria is used that relies upon the ordering akin to the earlier model specification i.e. in Equation [5] to Equation [8].

Orthogonalization, however, is not that unique in a sense that it is to change the ordering of variables in y that changes the results. Whatsoever the case be, defining lower triangular matrix S, that is $SS' = \sum_{\varepsilon}$ and $v_t = S^{-1}\varepsilon_t$, then $\mathrm{I} = S^{-1}E(\varepsilon_t \varepsilon_t')S'^{-1} = S^{-1}\sum_{\varepsilon} S'^{-1} = \mathrm{I}$.

Here, over time, new residuals appear to be both not correlated across the equations and thus having unitary variance. Thus, new vector is represented as in Equation [43];

[43] $$y_t = \sum_{i=0}^{\infty} \psi_i^* v_{t-i}$$

where $\psi_i^* = \psi_i S$ ($m \times m$ matrices) and $\psi_i^* = S$. The IRF, in such situation, for y_i to unit shock in y_j, is then written as in Equation [44].

[44] $$\psi_{ij}^*,0,\psi_{ij}^*,1,\psi_{ij}^*,2....$$

3.6.1.10 Test of Forecast Error Variance Decomposition

The innovation accounting or variance decomposition technique is stepped-ahead while forecasting for y_{it} in decomposed form to the shocks or the innovations. To make it simpler, it is an idea to decompose total variance of time series into percentages that are attributable to each of the structural shock. Despite of IRF, variance decomposition is a task that throws out information regarding the forecast ability. Thus, the concept is that even a seamless model does involve obscurity on endogenous variable in looking for the effects of independent variables on it because of the associated uncertainty of the error terms across the equations. Besides uncorrelatedness, though innovations contain unit variance, components of error variance that are explored by innovations in y_j are shown as in Equation [45].

[45] $$\sum_{k=0}^{S} \psi_{ij,k}^{*2}$$

There from, comparing such sum of shock/innovation response(s), relative measure got is to inform that how significantly the innovations in variable j_s explain

for the variations in variable i in different stepped-ahead forecasts as shown in Equation [46].

$$[46] \quad R^2_{ij,s} = 100 \frac{\sum_{k=0}^{s} \psi^{*2}_{ij,k}}{\sum_{h=1}^{m} \sum_{k=0}^{s} \psi^{*2}_{ih,k}}$$

Repeating again, the IRF traces for the effect(s) of shock(s) formed at the endogenous variable, possibly one, to other variables in VAR model. However, variance decomposition that bases upon orthogonal error terms — is a task of gathering around the information about the forecasting abilities. It is an attempt to separate variations in endogenous variable in components forms of shocks in the model thus, reduces uncertainly in one equation to variance of error term in all of the equations by the provision of separate information on relative importance of each of the random innovations that affect the dependent variable of the system.

3.6.2 Non Stationary Panel Analyses

For panel data, non stationary panel analysis is worked-with. Under non stationary panel analysis, it involves non stationary testing, cointegration testing, and panel data estimation using method of Fully Modified Ordinary Least Square (FMOLS).

In similar to that of independent analysis on SAC which starts by the test of unit root, in case of panel data analysis too, the first step that is to be involved in the determination of potential cointegration relationship is to check whether variables involved in the equation exhibit the property of stationary or not. If all of the variables

opted in the research are stationary then traditional method of exploring the causal relationship is be used (Asteriou, 2006).

3.6.2.1 Panel Stationarity Test

Tests for panel unit root are quite popular in case of empirical studies especially after the pioneering efforts, in this regards, brought forward by Levin and Lin (1992, 1993), Levin, Lin, and Chu (2002), and Quah (1994). In this regard, numerous tests of unit root on panel data were done by Harris and Tzavalis (1999), Pedroni (1999), Kao (1999), Maddala and Wu (1999), and IPS (2003)[10].

Amongst the available analytical tools, this study attempts for IPS (2003) test in order to check for the unit root existence on all the data series. It is because firstly; it is more powerful in diagnosing for the stationarity status than that of the other tests (IPS, 2003). Secondly; it is assumed that if the data on all the variables tend to be balanced, as this study hovers at, IPS (2003) is most appropriate (Khan & Khan, 2011). Thirdly; IPS (2003) is main test of analyzing unit root due to its dominant handling in macroeconomic analyses and thus is most cited in large number of literature (Chou & Chao, 2001). IPS (2003) test of unit root analysis on panel data is shown in Equation [47].

[47] $$\Delta Y_{it} = \mu_i + \beta_i t + \delta_i Y_{i,t-1} + \sum_{j=1}^{P} \theta_{ij} \Delta Y_{i,t-j} + \alpha X'_{i,t} + \varepsilon_{it}$$

In Equation [47], Y_{it} is symbolizing all the variables opted in this study, fixed effects coefficient is represented by μ_i coefficient of time effects (specific) is β_i, t demonstrates the deterministic trend, and δ_i stands for coefficient of cross section for unit i. In case of panel data analyses, error terms are independently and normally

distributed. Therefore, $\varepsilon_{it} \sim IN(0, \Sigma)$ is contemporaneous variance-covariance at year t in context of cross section i. Nevertheless, p_i is order for regression of ADF and however, the value chosen has to assure the fact that the residuals are not related in analysis period.

The H_0 in reciprocation of H_1, which states that every series in panel holds unit root i.e.H_0: $\delta_i = 0$ on account of all i, appears in Equation [48].

$$[48] \quad H_1 : \begin{cases} \delta_i < 0 \; for \quad i = 1,2,...., \; N \\ \delta_i = 0 \; for \quad i = N_1 + 1,....., \; N \end{cases}$$

Test of unit root, prescribed by IPS (2003), uses $\bar{t}$ - statistics that represents average statistic of every individual ADF that is got by worked out with Equation [47], appears in Equation [49].

$$[49] \quad \bar{t}_{N,T} = \frac{1}{N} \sum_{i=1}^{N} t_{\delta iT} \, (p_i)$$

In Equation [49], $t_{\delta iT}(p_i)$ is individual ADF, t-statistics to test for $H_0 : \delta_i = 0$ for i (in all) relies on ADF regression along with lag p_i[11]. Despite of this, IPS (2003) test is renovated into $Z_{\bar{t}}$ – statistics, as appear in Equation [50];

$$[50] \quad Z_i = \sqrt{N} \frac{\bar{t}_{N,T} - \mathrm{E}(\bar{t}_{N,T}))}{\sqrt{Var(\bar{t}_{NT})}} \sim \mathrm{N}(0,1)$$

where $E(\bar{t}_{N,T}) = (1/N)\sum_{i=1}^{N} E(t_{iT}(p_i))$ is mean and $Var(\bar{t}_{N,T}) = 1/N\sum_{i=1}^{N} \text{var}[t_{iT}(p_i)]$ is the variance. Both are considered to be as asymptotes for the individual ADF-statistics. Both mean and variance is a product of simulation process and are tabled in IPS (2003). When N and T $\rightarrow\infty$, and N/T $\rightarrow k$ wherein, k being positive constant, $Z_{\bar{t}}$ $Z_{\bar{t}}$ statistic is ought to be normally distributed. Lastly, the critical values as appear in table of IPS (2003) are compared with the test results of $Z_{\bar{t}}$ – statistics.

On the confirmation of the integrated order on account of variables, in panel data, the question that emerges is whether the series are co-integrated or not. Resolving this issue is to carry out a test for finding out the long run relationship between the chosen variables in the study. The objective of exploring for the existence of cointegration is indeed an inspection about the problem of spurious regression that exists whenever the series of data is not stationary.

3.6.2.2 Kao Panel Cointegration Test

Methods which are available for tracing out the long run relationship among the variables of specific model are mainly presented by Kao (1999), McCoskey and Kao (1998), Pedroni (1997, 1999, 2001), and Larsson, Lyhagen, and Löthgren (2001).

Bearing sufficient improvement on account of tracing the cointegration among the variables in long run, on conventional cointegration tests, this study attempts to go for the technique proposed by Kao (1999). Exercising the test of cointegration on panel data, Equation [9] to Equation [12] are run through the panel cointegration test of Kao (1999). In this respect, the starting point of cointegration analyses is the estimation of foreseen long run relationship between the variables of either of the equations that represent the specific model of the study. In particular, Kao (1999)

presented two types of tests, since the authentication of long run relationship of the very model is under the consideration i.e. the application of DF and ADF test(s). Whereas while applying DF test to the residuals, the regression model is given in Equation [51];

$$[51] \quad Y_{it} = \alpha_i + \beta x_{it} + \varepsilon_{it}$$

where $i = 1, \ldots\ldots\ldots, N$, and $t = 1, \ldots\ldots\ldots, T$.

The DF based test of limiting distributions for the residual, proposed by Kao (1999), can be applicable to residuals using Equation [52].

$$[52] \quad \hat{\varepsilon}_{it} = \rho \hat{\varepsilon}_{it-1} + v_{it}$$

However, $\hat{\varepsilon}_{it}$ is to estimate ε (residual) of Equation [51]. To proceed further, the OLS estimates of ρ and $\hat{\rho}$ can be represented in Equation [53] and Equation [54]:

$$[53] \quad \hat{\rho} = \frac{\sum_{i=1}^{N}\sum_{t=2}^{T} \hat{\varepsilon}_{it}\hat{\varepsilon}_{it-1}}{\sum_{i=1}^{N}\sum_{t=2}^{T} \hat{\varepsilon}_{it-1}^{2}}$$

the corresponding t statistic to test for the H_0 that $\rho = 1$ is thereby signified as:

$$[54] \quad t_{\rho} = \frac{(\hat{\rho} - 1)\sqrt{\sum_{i=1}^{N}\sum_{t=2}^{T} \hat{\varepsilon}_{it-1}^{*2}}}{S_e}$$

where $S_e^2 = \left(\frac{1}{NT}\right)\sum_{i=1}^{N}\sum_{t=2}^{T}\left(\hat{\varepsilon}_{it}^{*} - \hat{\rho}\hat{\varepsilon}_{it-1}^{*}\right)^2$.

To Kao (1999), the DF type of tests is of four standardized forms which are given in as Equation [55] to Equation [58]:

[55] $$DF_\rho = \frac{\sqrt{N}T(\hat{\rho}-1)+3\sqrt{N}}{\sqrt{51/5}},$$

[56] $$DF_t = \sqrt{\frac{5t_\rho}{4}}+\sqrt{\frac{15N}{8}},$$

[57] $$DF_\rho^{*} = \frac{\sqrt{N}T(\hat{\rho}-1)+\frac{3\sqrt{N}\hat{\sigma}_v^2}{\hat{\sigma}_{0v}^2}}{\sqrt{3+\frac{36\hat{\sigma}_v^4}{5\hat{\sigma}_{0v}^4}}},$$

[58] $$DF_t^{*} = \frac{t_\rho+\frac{\sqrt{6N\hat{\sigma}_v}}{2\hat{\sigma}_{0v}}}{\sqrt{\frac{\hat{\sigma}_{0v}^2}{2\hat{\sigma}_v^2}+\frac{3\hat{\sigma}_v^2}{10\hat{\sigma}_{0v}^2}}}.$$

However, the DF_ρ^{*} as well as DF_t^{*} are worked out in the scenario where the relationship among regressors and error term is endogenous, in contrast to DF_ρ and DF_t where the two (regressors and errors) are exogenous.

Next to DF based tests those based on simple OLS estimations on own lagged value, Kao (1999) introduced lagged changes on account of the residuals that are addible to the regression. It is proposed as an ADF test and is given in Equation [59].

$$[59] \quad \hat{\varepsilon}_{it} = \rho\hat{\varepsilon}_{it-1} + \sum_{j=1}^{p} \phi_j \Delta\hat{\varepsilon}_{it-j} + v_{itp}$$

Where p is determined in a way that residuals i.e. v_{itp} are serially not correlated. Similarly, the H_0 shows off no cointegration however, H_1, on the other side establishes for the state of cointegration among the variables of particular model. The ADF test thus takes the form, as is visible in Equation [60].

$$[60] \quad ADF = \frac{t_{ADF} + \sqrt{6N}\,\hat{\sigma}_v / 2\hat{\sigma}_{0v}}{\sqrt{\hat{\sigma}_{0v}^2 / 2\hat{\sigma}_v^2 + 3\hat{\sigma}_v^2 / 10\hat{\sigma}_{0v}^2}}$$

Wherein, t_{ADF} is an ADF statistics of the regression of Equation [59] that is not dependent on the nuisance parameters. Nevertheless, all of the DF and ADF tests are reliant on standardized normal distribution.

3.6.2.3 Estimation of Long Run Coefficients

After it is evident that there do exist long run relationships between the variables, in each model type, opted in the study, next move in line with the research objectives is to incorporate an exercise of estimating the values of long run parameters. In this respect, there are few tests which are usually practiced in the literature. These are of OLS, Panel Dynamic Ordinary Least Square (PDOLS), GMM,

and FMOLS [12]. On account of time series (panel) dimension of analysis, OLS technique of estimating for long run coefficients is indeed more informative as compared to that of in case of cross section dimension (Breitung & Pesaran, 2005). Rendering consistent estimator, via OLS, yet comes across disadvantage of being an inefficient model when there's problem of endogeneity. In case of non stationary panel, OLS and GLS, however, produce the results those are spurious in nature or are misspecified (Engle & Granger, 1987).

This study focuses on FMOLS for finding out long run parameters. FMOLS, introduced by Pedroni (1999, 2001), is gainful in engendering long run parameters (Ramirez, 2006). Despite of this, the problem of dependency of nuisance parameters on estimated cointegration vectors and of asymptotic biasness is removed (Hassan, Othman, & Karim, 2011). Nevertheless, FMOLS not only adjusts the endogeneity of regressors, rather parts of regressors those are correlated with an error term are also adjusted in the estimation of regressand. To be specific, since coefficients i.e. variants of FCI on each country are expected to bear homogeneous slopes, FMOLS is used with pooled panel to hold efficient coefficient estimation (Maeso-Fernandez, Osbat, & Schnatz, 2004). On account of GMM too, comes along with biased results whenever autogressive parameters are large or while relatively a variance of fixed effect increases (Arellano & Bover, 1995; Bond, Hoeffler, & Temple, 2001; Rivero, 2007). The pooled version of FMOLS is thus represented as in Equation [61];

$$[61] \qquad \hat{\delta}^{*}_{NT} - \delta = \left(\sum_{i=1}^{N} \hat{L}_{22i}^{-2} \sum_{t=1}^{T} (x_{it} - \bar{x}_i)^2 \right)^{-1} \sum_{i=1}^{N} \hat{L}_{11i}^{-1} \hat{L}_{22i}^{-1} \left(\sum_{t=1}^{T} (x_{it} - \bar{x}_i) \varepsilon^{*}_{it} - T\hat{\phi}_i \right)$$

where $\varepsilon^{*}_{it} = \varepsilon_{it} - \frac{\hat{L}_{21i}}{\hat{L}_{22i}} \Delta SR_{i,t} \Delta x_{it}$ and $\hat{\phi}_i \equiv \hat{\Gamma}_{21i} + \hat{\Omega}^{o}_{21i} - \frac{\hat{L}_{21i}}{\hat{L}_{22i}} (\hat{\Gamma}_{22i} + \hat{\Omega}^{o}_{22i})$.

In preceding case, lower triangular decomposition of $\hat{\Omega}_i$ is $\hat{L}_i$. The estimator $\tilde{\delta}^*_{NT}$ does converge to its true value at rate of $T\sqrt{N}$ which is distributed as $T\sqrt{N}(\tilde{\delta}^*_{NT}-\delta)\to N(0,v)$ whereas, $v=\begin{matrix}2 & iff\bar{x}_i=\bar{y}=0\\ 6 & else\end{matrix}$. Nevertheless, $T\to\infty$ and $N\to\infty$. Catering for problem of endogeneity and serial correlation, pooled FMOLS is written as in Equation [62];

$$[62]\qquad t_{\tilde{\delta}^*_{NT}}=(\hat{\delta}^*_{NT}-\delta)\left(\sum_{i=1}^{N}\hat{L}_{22i}^{-2}\sum_{t=1}^{T}(x_{it}-\bar{x}_i)^2\right)^{-1/2}\to N(0,1)$$

where $\tilde{\delta}^*_{NT}$ is sum of normal mixtures free from asymptotic bias and serial correlation adjust is $\left(\sum_{t=1}^{T}(x_{it}-\bar{x}_i)\varepsilon^*_{it}-T\hat{\phi}_i\right)$ with ε^*_{it} i.e. endogeneity correction. The H_0 of efficient and consistent estimates is viewed against H_1 of inconsistent estimates under the observed significant *t*-statistics and/or probability value (Maeso-Fernandez *et al.*, 2004; Pedroni, 2001).

3.6.3 Estimation of Seemingly Unrelated Regression

While analyzing for the combined effects of FCI on the employment level of SAC by disintegrating the countries in the list, however, each of the country shares similar economic hinges, the pertinent methodology is SUR. It is to enable publish, in separate, the values of coefficients on each of the exogenous variable i.e. FCI and their effects on the employment level of either of the selected country in South Asia. At the start, the methodology of SUR was established by Zellner (1962)[13]. In case of SUR equation system, the equations are considered to be as of being related to one

another in considering that the error terms in different equations relate to each other. It is none other than considering that the error terms are correlated to each other, perhaps commonly unnoticed elements affect dependent variable in equation and the parameters in different equations are also related to each other. For example, when similar parameters appear in more than that of one equation, it means that one equation is linear and or nonlinear function of the parameter in other equation.

Efficient estimation of cointegrating vector is obtained by augmenting dynamics of Feasible Generalized Least Square (FGLS). Such amalgamations are essential provided that aim is to jointly test regression models that enjoin with endogenous regressors (homogeneous nature of cointegration vectors) with that of long run serially correlated error terms, thus make dynamic OLS estimation to be inefficient (Park & Ogaki, 1991; Moon & Perron, 2004)[14]. Adding of leads and lags to the first differenced regressors, that confirm of the problem of endogeneity across each equation, encourages to builds up augmented version of SUR. By doing so, the estimates become nearly unbiased due to the control of reliant endogeneity and exhibit to have convergence of estimated slope of coefficient to be much faster in spite of feckless in removal of serial correlation (Mark, Ogaki, & Sul, 2005).

Additionally, the imposition of both leads and lags must be necessitated cross-equations in addition to the regressors of own equation due to the error term being correlated within the system of equations. Thus, makes the interdependency of the regressors to be trivial and remits larger gains of efficient estimation by using GLS, since regressors across equation are endogenous and nevertheless correlated (Mark *et al.*, 2005). Ever since no standardized version of method is emerged for time series cointegration analyses regarding settling down leads and lags length, however, ad hoc

rule suggested by Stock and Watson (1993) is of setting $p = 1$, given that (T) equals 50.

Evans and Lewis (1995) omitted leads and lags across multiple equations which confronted with correlated errors with homogenous regressors that according to Mark *et al.* (2005) are problematic. Reason being having lack of control on endogeneity pertained on dynamic regressors, even asymptotically. It is because strict exogeneity requires errors to be uncorrelated with the regressors. Controlling of endogeneity is never complete, since worked along with SUR. However, using leads and lags for simultaneous estimation of first differenced regression equations, the traces of non stationary also become less compelling (Mark *et al.*, 2005). To Mark *et al.* (2005), dynamic SUR is applicable to environment of balanced multiple equation based estimation of time series panel cointegration analyses, embedded with large (T) and limited (N).

The model of SUR estimation is an application of GLS estimates to a particular group of seemingly unrelated equation(s). These are supposed to be the equations in which there is nonzero covariance that is otherwise associated with the error terms across various equations at a particular time. Writing the system of G equation for generalizing SUR model, Equation [63] can be written;

[63] $$Y_i = X_i \beta_i + \varepsilon_i$$

where $i = 1, 2, \ldots\ldots, G$

Y_i is the dependent variable of $N \times 1$ vector of the observations,

X_i is the independent variable in the regression equation of $N \times K_i$ matrix,

$\beta_i = K_i \times 1$ vector of the regression coefficients, and

ε_i is the vector of random error term of $N \times 1$ vector with mean value of zero.

Conveniently, the model $y = X\beta + \varepsilon$, in shortened, appears to be as in Equation [64];

[64] $$\begin{bmatrix} y_1 \\ y_2 \\ \mathrm{M} \\ y_G \end{bmatrix} = \begin{bmatrix} X_1 & 0 & \Lambda & 0 \\ 0 & X_2 & \Lambda & 0 \\ \mathrm{M} & \mathrm{M} & & \mathrm{M} \\ 0 & 0 & \Lambda & X_n \end{bmatrix} \begin{bmatrix} \beta_1 \\ \beta_2 \\ \mathrm{M} \\ \beta_G \end{bmatrix} + \begin{bmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \mathrm{M} \\ \varepsilon_G \end{bmatrix}$$

where $Y = G(N \times 1)$ matrix,

$X = G \times N \times \left(\sum_{i=1}^{G} K_i \right)$ i.e. the block diagonal matrix at the right hand side,

$\beta = \left(\sum_{i=1}^{G} K_i \right) \times 1$ matrix, and

$\mathcal{E} = G(N \times 1)$ matrix

In the translation of the assumption of SUR model, that there is indeed an existence of correlation in cross-equations and that no correlation is supposed to exist within the equation, thus Equation [65] is written;

[65] $$E(\varepsilon_i \varepsilon_j^{'}) = \begin{bmatrix} \sigma_{ij} & 0 & \Lambda & 0 \\ 0 & \sigma_{ij} & \Lambda & 0 \\ \mathrm{M} & \mathrm{M} & & \mathrm{M} \\ 0 & 0 & \Lambda & \sigma_{ij} \end{bmatrix} = \sigma_{ij} I$$

where I is the $G \times G$ identity matrix. However, this particular relationship relates to covariance(s) among the two arbitrary equations in G system of equation. Generalizing this particular result, in matrix form, Equation [66] can be written.

$$[66] \quad \Omega = E(\varepsilon\varepsilon') = \begin{bmatrix} E(\varepsilon_1\varepsilon_1') & E(\varepsilon_1\varepsilon_2') & \Lambda & E(\varepsilon_1\varepsilon_G') \\ E(\varepsilon_2\varepsilon_1') & E(\varepsilon_2\varepsilon_2') & \Lambda & E(\varepsilon_2\varepsilon_G') \\ \Lambda & \Lambda & \Lambda & \Lambda \\ E(\varepsilon_G\varepsilon_1') & E(\varepsilon_G\varepsilon_2') & \Lambda & E(\varepsilon_G\varepsilon_G') \end{bmatrix}$$

While substituting Equation [66] from Equation [65], Equation [67] tends to be:

$$[67] \quad \sum = \Omega = \begin{bmatrix} \sigma_{11}\mathrm{I} & \sigma_{12}\mathrm{I} & \Lambda & \sigma_{1G}\mathrm{I} \\ \sigma_{21}\mathrm{I} & \sigma_{22}\mathrm{I} & \Lambda & \sigma_{2G}\mathrm{I} \\ \mathrm{M} & \mathrm{M} & & \mathrm{M} \\ \sigma_{G1}\mathrm{I} & \sigma_{G2}\mathrm{I} & \Lambda & \sigma_{GG}\mathrm{I} \end{bmatrix} = \begin{bmatrix} \sigma_{11} & \sigma_{12} & \Lambda & \sigma_{1G} \\ \sigma_{21} & \sigma_{22} & \Lambda & \sigma_{2G} \\ \mathrm{M} & \mathrm{M} & & \mathrm{M} \\ \sigma_{G1} & \sigma_{G2} & \Lambda & \sigma_{GG} \end{bmatrix} \otimes I = \Sigma_c \otimes I,$$

The I is the unit matrix of the order $T \times T$. The information about all of the error covariance(s) is contained into matrix Ω i.e. $\sigma_{\varepsilon\varepsilon'} = E(\varepsilon_{it}\varepsilon_{\varepsilon't})$ for $t = 1,2,\ldots, T$ and $\varepsilon, \varepsilon' = 1,2,\ldots,G$. Applying GLS estimation [15] to get most efficient results from Equation [64], Equation [68], and Equation [69] are got.

$$[68] \quad \hat{\beta} = (X'\Omega^{-1}X)^{-1}(X'\Omega^{-1}Y)$$

$$[69] \quad E\left[\left(\hat{\beta} - \beta\right)\left(\hat{\beta} - \beta\right)'\right] = \left(X'\Omega^{-1}X\right)^{-1}$$

However, in practical terms, elements of Ω are to be estimated. This task is accomplished by the usage of residuals those are obtained when OLS estimation is applied to each of G equation, where following conditions are met:

Where, $\hat{\sigma}_{ij} = \frac{\hat{\varepsilon}_i \hat{\varepsilon}_i^{'}}{N - K_i}$, $\hat{\sigma}_{ij} = \frac{\hat{\varepsilon}_i \hat{\varepsilon}_i^{'}}{\sqrt{(N - K_i)\ (N - K_j)}}$, and $\hat{\varepsilon}_i = Y_i - X_i \hat{\beta}_i$.

Notably, when $\sigma_{ij} = 0$, for each i and j, i are unequal to j, estimation of the methodology of SUR gets equivalent to equation-by-equation application of OLS. In such situations, Ω is to be simplified, as appear in Equation [70].

[70] $$\Omega = \begin{bmatrix} \sigma_{11}\mathrm{I} & 0 & \Lambda & 0 \\ 0 & \sigma_{22}\mathrm{I} & \Lambda & 0 \\ \mathrm{M} & \mathrm{M} & & \mathrm{M} \\ 0 & 0 & \Lambda & \sigma_{GG}\mathrm{I} \end{bmatrix}$$

The usage of simple algebraic matrix, got by substituting Equation [70] into Equation [69], is however, adequate to prove stated results. Secondly; the less obvious case is to occur when $X_i = X$ for every $i = 1, 2, \ldots, G$ ($K_i = K$ is implicit). This situation exists in the realization of identical set of independent variables which appear in each equation.

The estimation of coefficients under SUR with the operation of GLS is more efficient as compared to that of OLS. To Zellner (1962), the gain of the efficiency is however not restricted to single equation. Thus, system in Equation [64] can be rewritten as in Equation [71].

[71] $$(y_1 y_2 \Lambda\ y_G) = (X_1 X_2 \Lambda\ X_G)\begin{bmatrix} \beta_1 & 0 & \Lambda & 0 \\ 0 & \beta_2 & \Lambda & 0 \\ \mathrm{M} & \mathrm{M} & & \mathrm{M} \\ 0 & 0 & \Lambda & \beta_G \end{bmatrix} + (\varepsilon_1 \varepsilon_2 \Lambda\ \varepsilon_G)$$

In case of two dimensional equations (G=2), the covariance matrix for the vector coefficients of first equation are given in Equation [72] and Equation [73].

[72] $$V(b_1^*) = \left[(\alpha - \gamma) X_1' X_1 - \frac{\gamma^2}{\alpha - \gamma} X_1' X_2 (X_2' X_2)^{-1} X_2' X_1 \right]^{-1}$$ and can be shown as:

[73] $$\left| V(b_1^*) \right| = \frac{(1-\delta^2)^{l_1}}{\prod_{\varepsilon=1}^{l_1} (1-\delta^2 \rho_\varepsilon^2)} \left| \sigma^2 (X_1' X_1)^{-1} \right|$$

Whereas, l_1 is the sum of independent variables in first equations $(l_1 \le l_2)$ and ρ_ε is the $\varepsilon' th$ correlation coefficient that is associated with sets of variable(s) in X_1 and of X_2. Given that $\rho_\varepsilon = 0$ for all of ε, that can be a case if $X_1' X_2 = 0$, with $X_\varepsilon' X_{\varepsilon'} = 0$ for $\varepsilon \neq \varepsilon'$, Equation [74] is obtained.

[74] $$V(b_1^*) = \left[\frac{1-\delta}{1 - \dfrac{\delta}{1+\delta(G-1)}} \right] \sigma^2 (X_1' X_1)^{-1}$$

Thus, since the number of equations (G) approach to infinity herewith $X'_{\varepsilon}X_{\varepsilon'}=0$ for $\varepsilon,\varepsilon' = 1,2,\ldots,$ G and $\varepsilon \neq \varepsilon'$ therefore, $V(b_1^*)$ approaches to $(1-\delta)\sigma^2(X_1'X_1)^{-1}$.

To be more specific on the modus operandi of SUR, the overall structuring of the models at each country level on the composite of the components of FCI is given as in Equation [75] to Equation [78].

[75] $$EMPL_{t(Bongladesh)} = \beta_1 + \beta_2 FCI_t + \beta_3 GCF_t + \beta_4 GDP_t + \beta_5 INF_t + \beta_6 LIT_t + \beta_7 POP_t + \beta_8 CONS_t + \varepsilon_t$$

[76] $$EMPL_{t(India)} = \beta_9 + \beta_{10} FCI_t + \beta_{11} GCF_t + \beta_{12} GDP_t + \beta_{13} INF_t + \beta_{14} LIT_t + \beta_{15} POP_t + \beta_{16} CONS_t + \varepsilon_t$$

[77] $$EMPL_{t(SriLanka)} = \beta_{17} + \beta_{18} FCI_t + \beta_{19} GCF_t + \beta_{20} GDP_t + \beta_{21} INF_t + \beta_{22} LIT_t + \beta_{23} POP_t + \beta_{24} CONS_t + \varepsilon_t$$

[78] $$EMPL_{t(Pakistan)} = \beta_{25} + \beta_{26} FCI_t + \beta_{27} GCF_t + \beta_{28} GDP_t + \beta_{29} INF_t + \beta_{30} LIT_t + \beta_{31} POP_t + \beta_{32} CONS_t + \varepsilon_t$$

Where, β_i are the respective intercept(s) and coefficient(s).

3.6.4 Analyses of Causality

Additionally, in respect of an interest developed in this study to find out the causality among the variables of the models, this section illuminates the estimation technique of causality on account of SAC (time series and panel data). The objective is to find out the deterministic ability of either of the genre of FCI on the

employment of SAC. Thus for the specific motive, the methodological technique opted to analyze the causality is detailed herewith.

3.6.4.1 Analysis of Causality for Time Series SAC

The approach of Granger (1969) is adopted in order to investigate for whether one variable has causality effect on another variable in the equation of the specific model. This is none other than that of the checking for a fact that whether x causes y i.e. to see for first that how much current value of y is explained by its own past values. Once value of x is added, how much it affects the existence of y. In precise, the exercising of Granger causality test helps to know that how much one variable of a particular model is explained by its own past trend and patterns, supplemented with the interdependency of all the variables on each other in defining the future patterns of movements and trends of one another.

Testing for the causality between two stationary variables for example X_t and Y_t, the first step involved for checking causality is the estimation of VAR model, that is expressed in Equation [79] and Equation [80].

[79] $$X_t = \alpha_i + \sum_{i=1}^{n} \beta_i X_{t-i} + \sum_{j=1}^{m} \gamma_j Y_{t-j} + \varepsilon_{1t}$$

[80] $$Y_t = \alpha_i + \sum_{i=1}^{n} \phi_i Y_{t-i} + \sum_{j=1}^{m} \delta_j X_{t-j} + \varepsilon_{2t}$$

It is assumed that both of ε_{1t} and ε_{2t} are uncorrelated white noise error terms. Nevertheless, four different cases that are expected are described as:

i The lagged X term in Equation [79] may statistically different from zero unlike Y term in Equation [80]. In this particular case, X_t causes Y_t.

ii The lagged Y term in Equation [80] may statistically different from zero unlike X term in Equation [79]. In this particular case, Y_t causes X_t.

iii There would exist bi-directional causality, if X and Y (lagged terms), as in Equation [79] and Equation [80], are statistically different from zero.

iv X_t is to be considered as of being independent of Y_t, if X and Y, as in Equation [79] and Equation [80], are not statistically different from zero.

3.6.4.2 Analysis of Causality for Time Series Panel

On account of panel data, whilst looking into the fact that either the constituents of FCI vary in their effectuality on employed labor force of SAC, subsequent stride is to work for either the value of dependent variable is explained by exogenous components in the equation. In this respect, the Granger causality test is rerun for each model at panel data analyses in order of expressly checking the causality among each of the module of FCI and employed labor force. While looking for the state of causality among two stationary variable i.e. A_t and B_t, the general form of representation is given as in Equation [81] and Equation [82].

[81] $$A_t = \alpha_1 + \sum_{i=1}^{n} \beta_i A_{t-1} + \sum_{i=1}^{n} \gamma_i B_{t-j} + \varepsilon_{1t}$$

[82] $$B_t = \alpha_1 + \sum_{i=1}^{n} \beta_i B_{t-1} + \sum_{i=1}^{n} \delta_i A_{t-j} + \varepsilon_{2t}$$

It is assumed that both ε_{1t} and ε_{2t} are uncorrelated white noise error terms. Nevertheless, four different cases that are expected are:

i The lagged A term in Equation [81] may statistically different from zero unlike B term in Equation [82]. In this particular case, A_t causes B_t.

ii The lagged B term in Equation [82] may statistically different from zero unlike A term in Equation [81]. In this particular case, B_t causes A_t.

iii There would exist bi-directional causality, if A and B (lagged terms), as in Equation [81] and Equation [82], are statistically different from zero.

iv A_t is to be considered as of being independent of B_t, if A and B, as in Equation [81] and Equation [82], are not statistically different from zero.

3.7 Conclusion

This chapter has provided a justified framework of building conceptual framework of the research, while resting at how FCI affect the employment level in the country that they travel to, in section of prelim. In precise, this chapter has rendered an idea, in the sequel of the literature reviewed earlier in preceding chapter, as to paving off the way(s) to justify the evolvement of right sided variables i.e. FCI in the equation(s), developed in respective section, to test their effects on employed labor force distinctly in selected SAC. In subsequent to the conceptual frame work, proceeding sections have the elaborations on the measurement process of either of the variables, their operational definitions and, in successive, the possible source(s) of data that are accessed to obtain the desired yearly statistics on the selected variables in each country case. Furthermore, it is unveiled that two approaches of analyses have to be used for the in-depth judgment of the employment and FCI scenario. In subsequent

sections, methodologies and analytical techniques have been suggested for getting hold of the desired objectives of the study, as described in foremost.

CHAPTER 4

DISCUSSION OF RESULTS

4.1 Introduction

This chapter lends in-steps the results as per the statistical norms. To start with, versions of descriptive statistics on SAC (time series and panel) are lightened up, next to which the correlation matrices are given according to each model in question. After that, empirical results are given that engage the explorations of the stationarity test thereby are led towards the computation of state of cointegration and short run and long run coefficient estimates in either of the model in question. Moreover, the chapter illuminates the results on the analysis of IRVD as well as SUR. At the closing end, the interpretations are given on the analyses of Granger causality.

4.2 Descriptive Statistics

The section of descriptive statistics highlights the particular attributes of the data however the beginning of the discussion is about composite of central tendency, importantly mean and standard deviation. Table 4.1 establishes a thorough outlook of the attributes of country-wise descriptive statistics. Stepping forward in term by term elaboration of the constituents of FCI establishes the impression that mean value of WREM is the highest. However, besides India, mean of FORAID stands above FDI. Likewise, mean of FORDBT, in exemption of Bangladesh, is higher to FORAID, respectively. Moreover, at Sri Lanka only, it is found that standard deviation of all variants of FCI is narrowest in respect of the mean values. Whilst looking onto EMPL, there is an apparent breach, since mean and standard deviation is viewed. On account of other variables, while glancing at mean and standard deviation, GCF,

GDP, and CONS show lesser deviations. However, in general, relative to INF, LIT and POP exhibit for the wider dispersion on account of mean and standard deviation.

Table 4.1
Descriptive Statistics (Country-wise)

Pakistan					
Variable	**Mean**	**Median**	**Standard Deviation**	**Maximum**	**Minimum**
EMPL	34035.07	30190.00	11119.48	56500.00	19875.00
FDI	850.03	336.48	1339.43	5590.00	4.00
FORDBT	1815.12	1798.54	926.73	3842.31	278.14
FORAID	1300.47	1057.90	737.98	3507.54	282.35
WREM	3756.80	2047.62	4041.70	17066.00	411.74
GCF	12661.74	9842.19	10425.28	34537.41	817.84
GDP	74425.82	51478.35	67361.93	246876.32	6324.88
INF	9.51	8.70	5.25	26.66	2.91
LIT	39.41	38.40	13.66	60.00	19.60
POP	121.15	120.34	38.21	185.13	62.53
CONS	58122.46	36898.37	54668.99	198706.96	4952.14
Bangladesh					
Variable	**Mean**	**Median**	**Standard Deviation**	**Maximum**	**Minimum**
EMPL	38303.88	41191.00	13928.06	55407.98	4689.00
FDI	349.84	52.34	495.00	1526.70	0.25
FORDBT	1051.70	892.41	602.64	3157.38	538.64
FORAID	1476.11	1383.26	400.56	2669.11	906.25
WREM	3875.56	1526.50	4640.85	14236.41	338.67
GCF	13923.36	10525.08	12475.62	49860.27	2615.64
GDP	57566.19	48244.31	41024.64	173818.93	17579.45
INF	8.33	8.54	2.97	13.87	3.77
LIT	44.87	47.49	10.95	59.10	29.00
POP	123.14	124.95	23.57	158.51	82.50
CONS	43639.77	37609.81	29140.23	124063.50	14703.82
India					
Variable	**Mean**	**Median**	**Standard Deviation**	**Maximum**	**Minimum**
EMPL	300745.70	294370.50	68026.29	419914.50	200734.70
FDI	9224.38	2426.06	13351.14	43406.28	5.64
FORDBT	8516.01	6851.41	5209.56	25560.29	2195.93
FORAID	1884.85	1757.87	566.46	3228.25	729.78
WREM	19527.56	9479.30	22740.57	70388.64	2239.90
GCF	213014.21	100814.12	219101.54	714793.26	34211.86
GDP	678668.12	423160.42	577382.64	2066902.40	189594.12
INF	8.20	8.73	3.10	13.87	3.26
LIT	55.51	55.70	13.90	76.00	4.95
POP	987.75	990.46	173.63	1267.40	698.97
CONS	417170.37	274113.18	324488.56	1248391.08	149591.03

Table 4.1 (Continued)

Sri Lanka					
Variable	**Mean**	**Median**	**Standard Deviation**	**Maximum**	**Minimum**
EMPL	6598.59	6645.50	1205.20	8232.38	4632.00
FDI	274.82	172.94	293.64	955.92	19.74
FORDBT	1003.34	587.03	954.34	3492.44	269.45
FORAID	545.18	506.38	183.34	1161.19	261.98
WREM	1677.12	942.39	1895.55	7017.00	151.70
GCF	5688.60	3464.80	5631.63	19825.95	1226.49
GDP	21329.72	15091.93	19602.88	74941.18	4024.62
INF	10.82	9.57	5.56	26.15	1.48
LIT	89.58	89.80	1.85	95.60	86.50
POP	18.18	18.57	1.87	20.87	14.75
CONS	14977.01	10914.38	13190.84	52458.00	3230.43

Exploring for the descriptive patterns and characteristics of the panel data, Table 4.2 screws up to bring forward mean value of components of FCI where mean of WREM is above the rest. Furthermore, it is apparent that FORDBT is engaged with the second highest mean value where else, FORAID is at the lowest point of mark. Importantly on account of standard deviation, to be precise enough, it is apparent that dispersions on account of all the variables is widened, however with relatively lesser breach in case of EMPL, FORDBT, GDP, and POP.

Table 4.2
Descriptive Statistics Time Series Panel

Variable	**Mean**	**Median**	**Standard Deviation**	**Maximum**	**Minimum**
EMPL	95647.74	38133.29	124458.71	419914.50	4632.00
FDI	2722.23	263.35	7645.87	43406.28	0.25
FORDBT	3160.92	1557.75	4114.36	25560.29	269.45
FORAID	1341.72	1302.79	703.50	3507.54	261.98
WREM	7350.64	2349.52	13708.46	70388.64	151.70
GCF	61923.57	12009.59	139608.45	714793.26	1226.49
GDP	211523.65	59286.04	396212.92	2066902.40	4024.62
INF	8.99	8.80	4.08	26.15	1.48
LIT	58.36	55.10	21.08	95.60	24.78
POP	315.51	128.72	401.90	1267.40	14.75
CONS	136206.66	41326.64	231554.77	1248391.08	3230.43

4.3 Correlation Analyses

This section highlights the stature of the existence of correlation among the selected variables preferably EMPL and variants of FCI. Correlation matrices are exposed separately for SAC; at time series and panel data.

The country-wise correlation analysis for Model-I is rendered in Table 4.3. It is evident that the state of correlation concerning to FDI and EMPL is higher on account of India and Sri Lanka as compared to the rest of the countries at South Asia. Furthermore, it is also confirmed relatively weaker, though higher than the modest, association between EMPL and FDI, since Bangladesh is taken into the notice.

Table 4.3
Correlation Matrices (Country-wise) Model-I

				Pakistan				
	EMPL	FDI	GCF	GDP	INF	LIT	POP	CONS
EMPL	1.00							
FDI	0.68	1.00						
GCF	0.98	0.75	1.00					
GDP	0.97	0.65	0.98	1.00				
INF	-0.08	0.14	0.02	0.01	1.00			
LIT	0.96	0.66	0.91	0.88	-0.16	1.00		
POP	0.97	0.64	0.92	0.90	-0.16	0.97	1.00	
CONS	0.96	0.64	0.98	0.97	0.02	0.86	0.88	1.00
				Bangladesh				
	EMPL	FDI	GCF	GDP	INF	LIT	POP	CONS
EMPL	1.00							
FDI	0.61	1.00						
GCF	0.66	0.97	1.00					
GDP	0.68	0.96	0.97	1.00				
INF	-0.25	-0.02	-0.06	-0.05	1.00			
LIT	0.74	0.80	0.84	0.85	-0.25	1.00		
POP	0.82	0.81	0.86	0.88	-0.29	0.97	1.00	
CONS	0.68	0.96	0.97	0.97	-0.04	0.85	0.88	1.00

Table 4.3 (Continued)

	India							
	EMPL	FDI	GCF	GDP	INF	LIT	POP	CONS
EMPL	1.00							
FDI	0.84	1.00						
GCF	0.89	0.93	1.00					
GDP	0.91	0.92	0.97	1.00				
INF	-0.21	0.04	0.02	0.00	1.00			
LIT	0.97	0.84	0.91	0.92	-0.15	1.00		
POP	0.97	0.80	0.85	0.87	-0.24	0.97	1.00	
CONS	0.90	0.91	0.97	0.97	0.00	0.91	0.86	1.00
	Sri Lanka							
	EMPL	FDI	GCF	GDP	INF	LIT	POP	CONS
EMPL	1.00							
FDI	0.80	1.00						
GCF	0.79	0.95	1.00					
GDP	0.82	0.95	0.97	1.00				
INF	-0.38	-0.23	-0.33	-0.35	1.00			
LIT	0.91	0.76	0.80	0.84	-0.47	1.00		
POP	0.97	0.79	0.79	0.81	-0.41	0.92	1.00	
CONS	0.81	0.95	0.97	0.97	-0.35	0.84	0.81	1.00

Moving towards Model-II, the states of correlations are given in Table 4.4 where the point of notice is FORDBT. The intensity of association is recorded to be the same at Pakistan and Sri Lanka. On the other hand, looking into the nature of correlation between EMPL and FORDBT, relatively modest state of association is recorded at Bangladesh.

Table 4.4
Correlation Matrices (Country-wise) Model-II

	Pakistan							
	EMPL	FORDBT	GCF	GDP	INF	LIT	POP	CONS
EMPL	1.00							
FORDBT	0.70	1.00						
GCF	0.98	0.72	1.00					
GDP	0.97	0.66	0.98	1.00				
INF	-0.08	0.02	0.02	0.01	1.00			
LIT	0.96	0.75	0.91	0.88	-0.16	1.00		
POP	0.97	0.77	0.92	0.90	-0.16	0.97	1.00	
CONS	0.96	0.64	0.98	0.97	0.02	0.86	0.88	1.00

Table 4.4 (Continued)

				Bangladesh				
	EMPL	FORDBT	GCF	GDP	INF	LIT	POP	CONS
EMPL	1.00							
FORDBT	0.54	1.00						
GCF	0.66	0.81	1.00					
GDP	0.68	0.81	0.97	1.00				
INF	-0.25	0.05	-0.06	-0.05	1.00			
LIT	0.74	0.52	0.84	0.85	-0.25	1.00		
POP	0.82	0.57	0.86	0.88	-0.29	0.97	1.00	
CONS	0.68	0.80	0.97	0.97	-0.04	0.85	0.88	1.00
				India				
	EMPL	FORDBT	GCF	GDP	INF	LIT	POP	CONS
EMPL	1.00							
FORDBT	0.75	1.00						
GCF	0.89	0.83	1.00					
GDP	0.91	0.82	0.97	1.00				
INF	-0.21	0.11	0.02	0.00	1.00			
LIT	0.97	0.78	0.91	0.92	-0.15	1.00		
POP	0.97	0.73	0.85	0.87	-0.24	0.97	1.00	
CONS	0.90	0.81	0.97	0.97	0.00	0.91	0.86	1.00
				Sri Lanka				
	EMPL	FORDBT	GCF	GDP	INF	LIT	POP	CONS
EMPL	1.00							
FORDBT	0.70	1.00						
GCF	0.79	0.96	1.00					
GDP	0.82	0.96	0.97	1.00				
INF	-0.38	-0.38	-0.33	-0.35	1.00			
LIT	0.91	0.71	0.80	0.84	-0.47	1.00		
POP	0.97	0.70	0.79	0.81	-0.41	0.92	1.00	
CONS	0.81	0.95	0.97	0.97	-0.35	0.84	0.81	1.00

Within the discussions of the states of correlations amongst the variants of FCI and EMPL at selected SAC, Table 4.5 is referred to reflect the nature of correlation between FORAID and EMPL. It is apparent that in each country case although positive associations are found amongst the two, as in case of FDI and FORDBT however, at Sri Lanka and India, the relationship is found weak linear. On the other hand, at Bangladesh almost modest association is evident and nonetheless, higher correlation is apparent in case of Pakistan.

Table 4.5

Correlation Matrices (Country-wise) Model-III

				Pakistan				
	EMPL	FORAID	GCF	GDP	INF	LIT	POP	CONS
EMPL	1.00							
FORAID	0.85	1.00						
GCF	0.98	0.83	1.00					
GDP	0.97	0.84	0.98	1.00				
INF	-0.08	-0.02	0.02	0.01	1.00			
LIT	0.96	0.79	0.91	0.88	-0.16	1.00		
POP	0.97	0.80	0.92	0.90	-0.16	0.97	1.00	
CONS	0.96	0.83	0.98	0.97	0.02	0.86	0.88	1.00
				Bangladesh				
	EMPL	FORAID	GCF	GDP	INF	LIT	POP	CONS
EMPL	1.00							
FORAID	0.49	1.00						
GCF	0.66	0.46	1.00					
GDP	0.68	0.47	0.97	1.00				
INF	-0.25	0.24	-0.06	-0.05	1.00			
LIT	0.74	0.18	0.84	0.85	-0.25	1.00		
POP	0.82	0.27	0.86	0.88	-0.29	0.97	1.00	
CONS	0.68	0.47	0.97	0.97	-0.04	0.85	0.88	1.00
				India				
	EMPL	FORAID	GCF	GDP	INF	LIT	POP	CONS
EMPL	1.00							
FORAID	0.24	1.00						
GCF	0.89	0.46	1.00					
GDP	0.91	0.47	0.97	1.00				
INF	-0.21	0.51	0.02	0.00	1.00			
LIT	0.97	0.30	0.91	0.92	-0.15	1.00		
POP	0.97	0.21	0.85	0.87	-0.24	0.97	1.00	
CONS	0.90	0.48	0.97	0.97	0.00	0.91	0.86	1.00
				Sri Lanka				
	EMPL	FORAID	GCF	GDP	INF	LIT	POP	CONS
EMPL	1.00							
FORAID	0.14	1.00						
GCF	0.79	0.05	1.00					
GDP	0.82	0.07	0.97	1.00				
INF	-0.38	0.13	-0.33	-0.35	1.00			
LIT	0.91	0.06	0.80	0.84	-0.47	1.00		
POP	0.97	0.19	0.79	0.81	-0.41	0.92	1.00	
CONS	0.81	0.06	0.97	0.97	-0.35	0.84	0.81	1.00

Whilst to conclude the depictions on the correlations; Model-IV is also auditioned to render the confirmation on the mild, high, or weak relationship between

WREM and EMPL. The desired results put forward in Table 4.6 enlighten that; at all of SAC, high correlation is evident. However, at India and Pakistan, the intensity of correlation is higher, in comparative to the rest.

Taking into consideration EMPL, nature of correlation is found high, since the other variables are taken into the observation. In this regard, all along extent of correlation is nearly high and nevertheless positive. However, INF being the only variable that tends to have weaker bounding with EMPL and also negative.

Table 4.6
Correlation Matrices (Country-wise) Model-IV

			Pakistan				
	EMPL	WREM	GCF	INF	LIT	POP	CONS
EMPL	1.00						
WREM	0.85	1.00					
GCF	0.98	0.87	1.00				
INF	-0.08	0.07	0.02	1.00			
LIT	0.96	0.68	0.91	-0.16	1.00		
POP	0.97	0.71	0.92	-0.16	0.97	1.00	
CONS	0.96	0.94	0.98	0.02	0.86	0.88	1.00
			Bangladesh				
	EMPL	WREM	GCF	INF	LIT	POP	CONS
EMPL	1.00						
WREM	0.62	1.00					
GCF	0.66	0.97	1.00				
INF	-0.25	0.05	-0.06	1.00			
LIT	0.74	0.80	0.84	-0.25	1.00		
POP	0.82	0.81	0.86	-0.29	0.97	1.00	
CONS	0.68	0.97	0.97	-0.04	0.85	0.88	1.00
			India				
	EMPL	WREM	GCF	INF	LIT	POP	CONS
EMPL	1.00						
WREM	0.90	1.00					
GCF	0.89	0.98	1.00				
INF	-0.21	0.01	0.02	1.00			
LIT	0.97	0.91	0.91	-0.15	1.00		
POP	0.97	0.86	0.85	-0.24	0.97	1.00	
CONS	0.90	0.97	0.97	0.00	0.91	0.86	1.00

Table 4.6 (Continued)

Sri Lanka							
	EMPL	WREM	GCF	INF	LIT	POP	CONS
EMPL	1.00						
WREM	0.78	1.00					
GCF	0.79	0.97	1.00				
INF	-0.38	-0.36	-0.33	1.00			
LIT	0.91	0.81	0.80	-0.47	1.00		
POP	0.97	0.77	0.79	-0.41	0.92	1.00	
CONS	0.81	0.97	0.97	-0.35	0.84	0.81	1.00

In order to exclusively show the prospect of correlation among EMPL and explanatory variables on accord of time series panel data, Table 4.7 specifies that all of the four variants of FCI stand to have positively correlated with that of EMPL.

In supplement to that, higher state of correlations are evident on account of each of the component of FCI, unlike of FORAID where correlation value reflects modest correlation. As far as other variables are concerned, EMPL has bonding of higher state of correlation and nevertheless positive, with the exception of INF and LIT.

Table 4.7
Correlation Matrices Time Series Panel

Model-I								
	EMPL	FDI	GCF	GDP	INF	LIT	POP	CONS
EMPL	1.00							
FDI	0.67	1.00						
GCF	0.79	0.94	1.00					
GDP	0.84	0.92	0.97	1.00				
INF	-0.15	-0.03	-0.07	-0.08	1.00			
LIT	-0.07	0.16	0.13	0.11	0.19	1.00		
POP	0.97	0.63	0.75	0.81	-0.15	-0.10	1.00	
CONS	0.85	0.90	0.98	0.97	-0.08	0.09	0.82	1.00

Table 4.7 (Continued)

Model-II								
	EMPL	FORDBT	GCF	GDP	INF	LIT	POP	CONS
EMPL	1.00							
FORDBT	0.86	1.00						
GCF	0.79	0.89	1.00					
GDP	0.84	0.90	0.97	1.00				
INF	-0.15	-0.08	-0.07	-0.08	1.00			
LIT	-0.07	0.05	0.13	0.11	0.19	1.00		
POP	0.97	0.84	0.75	0.81	-0.15	-0.10	1.00	
CONS	0.85	0.90	0.98	0.97	-0.08	0.09	0.82	1.00

Model-III								
	EMPL	FORAID	GCF	GDP	INF	LIT	POP	CONS
EMPL	1.00							
FORAID	0.53	1.00						
GCF	0.79	0.46	1.00					
GDP	0.84	0.51	0.97	1.00				
INF	-0.15	0.01	-0.07	-0.08	1.00			
LIT	-0.07	-0.36	0.13	0.11	0.19	1.00		
POP	0.97	0.53	0.75	0.81	-0.15	-0.10	1.00	
CONS	0.85	0.54	0.98	0.97	-0.08	0.09	0.82	1.00

Model-IV							
	EMPL	WREM	GCF	INF	LIT	POP	CONS
EMPL	1.00						
WREM	0.71	1.00					
GCF	0.79	0.96	1.00				
INF	-0.15	-0.07	-0.07	1.00			
LIT	-0.07	0.16	0.13	0.19	1.00		
POP	0.97	0.67	0.75	-0.15	-0.10	1.00	
CONS	0.85	0.96	0.98	-0.08	0.09	0.82	1.00

4.4 Test of Stationarity

This section submits empirical results. To begin with, the results of stationarity for time series SAC and panel data are discussed.

At present, the results of ADF (1981) and Ng and Perron (2001) test of stationarity for time series SAC are shown in Table 4.8. Findings put forth that; at Pakistan, when the ADF (1981) test is constituted at level; the H_0 of non stationarity or presence of unit root is failed to be rejected because the computed *t*-statistics are insignificant at 5 percent. However, when the series are computed for the test of

stationarity after converted to first difference, the computed *t*-statistics are turned significant at 5 and 10 percent, respectively. On account of India, series are either stationary at I(0) or I(1). In case of Bangladesh and Sri Lanka also, mixed states of stationarity are evident, since ADF (1981) and Ng and Perron (2001) tests of unit root are performed. Thus, it is concluded that all of the variables at SAC are stationary at level and/or first difference i.e. integrated at order I(0) and/or I(1). None of the series is found integrated at I(2).

Table 4.8
Test of Stationarity Time Series SAC

	Pakistan			Bangladesh		
Variable	**Computed *t*-statistics**			**Computed *t*-statistics**		
	Level	**First Difference**	**Conclusion**	**Level**	**First Difference**	**Conclusion**
EMPL	2.66	-3.41*	I(1)	1.10	-7.30*	I(1)
FDI	-1.78	-4.00*	I(1)	1.09	-5.51*	I(1)
FORDBT	-1.83	-5.84*	I(1)	1.92	-6.10*	I(1)
FORAID	-1.33	-6.44*	I(1)	-2.34	-7.01*	I(1)
WREM	4.00	-3.23**	I(1)	2.66	-4.99*	I(1)
GCF	0.47	-3.76*	I(1)	4.51, 2.63	-47.28*, -4.57*	I(1)[a]
GDP	2.99	-3.02*	I(1)	-0.99, -0.27, 9.42	-22.29*,-3.01*,5.96*	I(1)[b]
INF	-2.08	-2.79**	I(1)	-2.34	-6.23*	I(1)
LIT	-0.77	-3.50*	I(1)	-0.73	-5.33*	I(1)
POP	-1.24	-3.18*	I(1)	-3.04*	- -	I(0)
CONS	2.62	-3.36*	I(1)	1.78, 0.65	-37.64*, -4.17*	I(1)[a]
	India			**Sri Lanka**		
Variable	**Computed *t*-statistics**			**Computed *t*-statistics**		
	Level	**First Difference**	**Conclusion**	**Level**	**First Difference**	**Conclusion**
EMPL	-0.46	-1.99*	I(1)	-1.01	-5.62*	I(1)
FDI	-0.24	-3.75*	I(1)	1.84	-6.48*	I(1)
FORDBT	-1.29	-5.63*	I(1)	0.41	-6.61*	I(1)
FORAID	-2.35	-7.51*	I(1)	-3.06*	- -	I(0)
WREM	1.40	-2.18*	I(1)	5.49, 10.99	-304.85*, -12.34*	I(1)[a]
GCF	0.59	-3.20*	I(1)	0.14	-3.26*	I(1)
GDP	2.45	-4.97*	I(1)	2.45	-5.51*	I(1)
INF	-3.17*	- -	I(0)	-4.32*	- -	I(0)
LIT	0.61	-5.39*	I(1)	-3.57*	- -	I(0)
POP	-7.03*	- -	I(0)	-2.19	-4.43*	I(1)
CONS	3.23	-4.66*	I(1)	2.27	-4.92*	I(1)

Note: * and ** indicate significant at 5 and 10 percent, respectively. [a] refers to MZa and MZt *t*-statistics. [b] is MZa, MZt, and MPT *t*-statistics, respectively.

In order to establish the state of integration on account of variables in panel data, it is checked under the doctrine of IPS (2003) test of panel unit root testing systems. In this respect, Table 4.9 enables to envision that; for instance, the entire variables possess unit root at level because none of the variables fails to be rejected for the H_0 of non stationarity.

Table 4.9
Test of Stationarity Time Series Panel

Variable	Computed *t*-statistics		Conclusion
	Level	First Difference	
EMPL	3.71(0.99)	-7.75(0.00)*	I(1)
FDI	3.33(0.99)	-8.98(0.00)*	I(1)
FORDBT	2.39(0.99)	-12.00(0.00)*	I(1)
FORAID	-1.04(0.15)	-9.05(0.00)*	I(1)
WREM	9.48(0.99)	-1.88(0.03)*	I(1)
GCF	12.52(0.99)	-2.63(0.00)*	I(1)
GDP	12.27(0.99)	-2.84(0.00)*	I(1)
INF	-0.37(0.36)	-2.59(0.00)*	I(1)
LIT	3.11(0.99)	-5.04(0.00)*	I(1)
POP	1.25(0.89)	-1.31(0.09)**	I(1)
CONS	13.06(0.99)	-2.75(0.00)*	I(1)

Note: *&** indicate significant at 5 and 10 percent, respectively.
The probabilities are shown in parenthesis.

Thus, the presence of unit root is thereby confirmed at level. However, when converted to first difference, the H_0 is respectively rejected at 5 and 10 percent. Thus, the conclusion drawn is that all of the variables are first differenced stationary and nevertheless integrated of order 1 or I(1).

4.5 Test of Weak Exogeneity

The test of weak exogeneity on a particular marginal model is held important. It is to check for whether the parameters in model are variations free. Basically, it is to note for the possibility that error term is associated with the regressor(s) in a given

model, either. This section therefore illustrates for the test of weak exogeneity pertained in case of time series SAC and panel data.

Before the analyses of ARDL is run for each of SAC, testing the state of weak exogeneity on each model of the study, specified as conditional VECM in Equation [26] to Equation [29], is worked with. The findings are given in Table 4.10. The results illustrate that most of the variables included in each of the Model-I to Model-IV are weakly exogenous, since H_0 is hereby failed to be rejected due to bearing of *p*-values being greater than 10 percent level of significance. However, the variables where the H_0 is rejected, there are still no traces of reverse causality found running from EMPL to those particular variables. In this case, according to Ghassan (2011), such variables are still treated as weakly exogenous.

Table 4.10
Test of Weak Exogeneity Time Series SAC

	Model-I: Dependent EMPL					
	Pakistan			Bangladesh		
Variable	χ^2	**df**	**Prob.**	χ^2	**df**	**Prob.**
FDI	0.81	2	0.67	0.62	2	0.73
GCF	3.26	2	0.19	0.92	2	0.63
GDP	1.89	2	0.39	2.12	2	0.35
INF	1.19	2	0.55	4.15	2	0.13
LIT	0.21	2	0.89	0.00	2	0.99
POP	1.81	2	0.41	3.08	2	0.21
CONS	0.93	2	0.63	4.33	2	0.11
	India			Sri Lanka		
Variable	χ^2	**df**	**Prob.**	χ^2	**df**	**Prob.**
FDI	4.21	3	0.24	6.29	1	0.01*
GCF	3.04	3	0.38	0.04	1	0.84
GDP	2.64	3	0.45	6.39	1	0.01*
INF	3.55	3	0.31	0.16	1	0.69
LIT	7.17	3	0.07**	1.21	1	0.27
POP	7.67	3	0.05*	5.84	1	0.02*
CONS	3.10	3	0.38	6.79	1	0.00*

Table 4.10 (Continued)

Model-II: Dependent EMPL						
	Pakistan			Bangladesh		
Variable	χ^2	df	Prob.	χ^2	df	Prob.
FORDBT	0.81	2	0.67	0.12	1	0.73
GCF	3.07	2	0.22	0.74	1	0.39
GDP	2.84	2	0.24	0.00	1	0.99
INF	0.96	2	0.62	0.61	1	0.43
LIT	0.49	2	0.78	0.00	1	0.96
POP	1.98	2	0.37	0.00	1	0.97
CONS	1.86	2	0.39	0.37	1	0.54
	India			Sri Lanka		
Variable	χ^2	df	Prob.	χ^2	df	Prob.
FORDBT	0.59	1	0.44	0.14	2	0.93
GCF	1.09	1	0.29	1.27	2	0.53
GDP	2.22	1	0.14	2.32	2	0.31
INF	0.07	1	0.79	0.48	2	0.79
LIT	6.84	1	0.01*	1.68	2	0.43
POP	0.00	1	0.99	3.21	2	0.20
CONS	4.48	1	0.03*	4.41	2	0.11
Model-III: Dependent EMPL						
	Pakistan			Bangladesh		
Variable	χ^2	df	Prob.	χ^2	df	Prob.
FORAID	2.93	2	0.67	0.82	1	0.37
GCF	0.77	2	0.22	0.97	1	0.32
GDP	2.18	2	0.24	0.01	1	0.91
INF	2.45	2	0.62	0.91	1	0.34
LIT	3.40	2	0.78	0.02	1	0.88
POP	6.23	2	0.37	0.00	1	0.97
CONS	1.34	2	0.39	0.26	1	0.61
	India			Sri Lanka		
Variable	χ^2	df	Prob.	χ^2	df	Prob.
FORAID	1.65	3	0.65	0.02	1	0.89
GCF	1.45	3	0.69	0.39	1	0.53
GDP	0.63	3	0.89	1.61	1	0.20
INF	0.60	3	0.89	0.67	1	0.41
LIT	0.99	3	0.80	0.21	1	0.65
POP	3.82	3	0.28	3.54	1	0.06**
CONS	1.69	3	0.64	2.19	1	0.14
Model-IV: Dependent EMPL						
	Pakistan			Bangladesh		
Variable	χ^2	df	Prob.	χ^2	df	Prob.
WREM	0.48	2	0.79	0.63	1	0.43
GCF	4.36	2	0.11	1.42	1	0.23
INF	0.69	2	0.71	0.41	1	0.52
LIT	1.33	2	0.52	0.00	1	0.96
POP	1.91	2	0.39	0.09	1	0.75
CONS	1.37	2	0.50	2.13	1	0.14
	India			Sri Lanka		
Variable	χ^2	df	Prob.	χ^2	df	Prob.
WREM	1.95	2	0.38	0.32	2	0.85
GCF	8.50	2	0.01*	0.06	2	0.97
INF	1.86	2	0.39	2.18	2	0.34
LIT	3.12	2	0.21	0.36	2	0.84
POP	12.91	2	0.00*	2.42	2	0.29
CONS	5.85	2	0.05*	2.11	2	0.35

Note:*&** show significant at 5 and 10 percent. Given are Chi-square values with respective *p*-values.

Given that all of the explanatory variables have none of the association with error term therefore, confer to have no loss of information while are to be estimated for EMPL.

For time series panel, the hitherto stage of analysis is to confirm that either of the included variables in Model-I to Model-IV are considered weakly exogenous. In this respect, the findings published in Table 4.11 authenticate that all the variables that are opted in either of the model are weakly exogenous. It is because the corresponding *p*-values are significantly higher than 5 percent level of significance[16]. Thus, the H_0 of existence of weak exogeneity is established at each of the variable mentioned in respective regression model. Therefore, it is concluded that there is no inefficiency to lie upon since estimation of cointegration is to be brought about.

Table 4.11
Test of Weak Exogeneity Time Series Panel

Model-I: Dependent EMPL			
Variable	χ^2	**df**	**Prob.**
FDI	0.08	2	0.96
GCF	0.04	2	0.98
GDP	0.15	2	0.93
INF	0.90	2	0.64
LIT	4.23	2	0.12
POP	27.47	2	0.00*
CONS	0.28	2	0.87
Model-II: Dependent EMPL			
Variable	χ^2	**df**	**Prob.**
FORDBT	0.80	2	0.67
GCF	0.03	2	0.99
GDP	0.24	2	0.89
INF	0.95	2	0.62
LIT	3.49	2	0.17
POP	28.22	2	0.00*
CONS	0.39	2	0.82

Table 4.11 (Continued)

Model-III: Dependent EMPL			
Variable	χ^2	**df**	**Prob.**
FORAID	0.26	2	0.88
GCF	0.03	2	0.99
GDP	0.21	2	0.90
INF	0.96	2	0.62
LIT	3.39	2	0.18
POP	26.83	2	0.00*
CONS	0.28	2	0.87
Model-IV: Dependent EMPL			
Variable	χ^2	**df**	**Prob.**
WREM	1.00	2	0.61
GCF	1.79	2	0.41
INF	0.78	2	0.68
LIT	0.09	2	0.96
POP	25.91	2	0.00*
CONS	1.03	2	0.59

Note: * shows significant at 5 percent.
For Model-I to Model-IV, selection of degree of freedom is based on 2, respectively. Values visualized are of chi-square with their corresponding *p*-values.

4.6 Estimation of ARDL Time Series SAC

After it is convicted that all of the variables are integrated at I(0) or I(1), the technique of ARDL for the measurement of cointegration for time series SAC is worked-with. An ARDL is justifiable due to the reason that the assumptions of ARDL are indeed met. The step wise computation of ARDL is elaborated herewith.

4.6.1 Selection of Lag Length

The ARDL is meant to base upon the optimal model that is relied upon the selection of maximum lag length for the appropriate estimation of long run relationship of the selected variables. Thus, to acquire the desired information, AIC and SC are followed. The desired results are reported in Table 4.12. In this regard, Model-I to Model-IV are tested at each country for the determination of maximum lag length. The results indicate that; at Pakistan, both baseline criterions suggest deploying maximum lag length of three in all of the models. Whereas, in case of

Bangladesh, India, and Sri Lanka, the designated lag length is suggested for either one or two at the respective Models of the study.

Table 4.12
Selection of Lag Length SAC

Model-I					
	Pakistan			**Bangladesh**	
Order of Lag	**AIC**	**SC**	**Order of Lag**	**AIC**	**SC**
1	-4.72	-4.18	1	-0.12*	0.50*
2	-4.83	-4.20	2	0.29	0.88
3	-5.39*	-4.55*	3	--	--
	India			**Sri Lanka**	
Order of Lag	**AIC**	**SC**	**Order of Lag**	**AIC**	**SC**
1	-39.75	-36.48*	1	-26.36*	-23.09*
2	-41.49*	-35.33	2	-25.85	-19.68
3	--	--	3	--	--
Model-II					
	Pakistan			**Bangladesh**	
Order of Lag	**AIC**	**SC**	**Order of Lag**	**AIC**	**SC**
1	-4.73	-4.17	1	-28.39	-25.12
2	-4.78	-3.99	2	-34.11*	-27.94*
3	-5.34*	-4.33*	3	--	--
	India			**Sri Lanka**	
Order of Lag	**AIC**	**SC**	**Order of Lag**	**AIC**	**SC**
1	-41.19	-37.92*	1	-27.53	-24.26*
2	-43.59*	-37.42	2	-27.73*	-21.57
3	--	--	3	--	--
Model-III					
	Pakistan			**Bangladesh**	
Order of Lag	**AIC**	**SC**	**Order of Lag**	**AIC**	**SC**
1	-4.69	-4.16	1	-28.70*	-25.44*
2	-4.79	-4.12	2	--	--
3	-5.41*	-4.36*	3	--	--
	India			**Sri Lanka**	
Order of Lag	**AIC**	**SC**	**Order of Lag**	**AIC**	**SC**
1	-40.64	-37.37*	1	-27.31	-24.04*
2	-43.03*	-36.87	2	-27.48*	-21.32
3	--	--	3	--	--
Model-IV					
	Pakistan			**Bangladesh**	
Order of Lag	**AIC**	**SC**	**Order of Lag**	**AIC**	**SC**
1	-4.55	-4.22	1	-25.02	-22.48
2	-4.57	-4.11	2	-27.55*	-22.79*
3	-4.86*	-4.26*	3	--	--
	India			**Sri Lanka**	
Order of Lag	**AIC**	**SC**	**Order of Lag**	**AIC**	**SC**
1	-35.18	-32.64*	1	-26.06*	-24.20*
2	-37.37*	-32.61	2	--	--
3	--	--	3	--	--

Note: * denotes the minimum value on AIC and SC that improvises the usage of Max. Lag Length.

4.6.2 Estimation of Optimal ARDL Models

In the sequel of the lag length selection, the respective optimal ARDL estimates on Model-I are given in Table 4.13 that attribute for the adjusted R^2 values being appreciably higher. In addition to that, DW statistics are also greater than upper bound DW [17] critical values thus authenticate for not any depiction of an autocorrelation. On the similar ground, *F*-statistics are also held significant at 5 percent. FDI that is the core variable of interest also has significant coefficient, however at different posits. Furthermore, inclusive of the model intercepts, most of the explanatory variables are also significant at 5 and 10 percent, at respective lags.

Table 4.13
Optimal ARDL SAC (Model-I)

Dependent variable EMPL Estimated using ARDL (1, 2, 1, 1, 3, 0, 3, 1)				Dependent variable EMPL Estimated using ARDL (1, 0, 1, 1, 1, 1, 0, 1)			
Pakistan				**Bangladesh**			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Variable**	**Coefficient**	**Standard Error**	***t*-statistic**
C	-7.11	2.94	-2.42*	C	-38.18	38.92	-0.98
EMPL(-1)	0.32	0.14	2.23*	EMPL(-1)	0.51	0.24	2.18*
FDI	-0.01	0.01	-1.38	FDI	-0.07	0.01	-5.84*
FDI(-1)	-0.02	0.01	-2.19*	GCF	-0.24	1.89	-0.13
FDI(-2)	0.00	0.00	1.63	GCF(-1)	-3.65	0.96	-3.79*
GCF	-0.11	0.05	-2.00**	GDP	-3.98	3.71	-1.07
GCF(-1)	0.25	0.06	4.10*	GDP(-1)	11.53	2.32	4.97*
GDP	0.24	0.16	1.50	INF	-0.13	0.11	-1.14
GDP(-1)	-0.73	0.15	-4.85*	INF(-1)	-0.21	0.12	-1.75**
INF	0.01	0.01	1.04	LIT	0.37	0.77	0.48
INF(-1)	-0.01	0.01	-0.96	LIT(-1)	1.46	0.65	2.24*
INF(-2)	0.02	0.01	1.86**	POP	0.71	2.06	0.35
INF(-3)	-0.04	0.01	-4.94*	CONS	4.68	2.39	1.96**
LIT	-0.41	0.16	-2.66*	CONS(-1)	-7.59	1.75	-4.33*
POP	-58.15	15.57	-3.73*	-	-	-	-
POP(-1)	166.20	42.03	3.95*	-	-	-	-
POP(-2)	-167.48	40.67	-4.12*	-	-	-	-
POP(-3)	60.20	14.19	4.24*	-	-	-	-
CONS	0.07	0.13	0.53	-	-	-	-
CONS(-1)	0.39	0.11	3.45*	-	-	-	-
R-squared		0.99		R-squared			0.98
Adjusted R-squared		0.99		Adjusted R-squared			0.96
Akaike info criterion		-5.39		Akaike info criterion			-1.06
Schwarz criterion		-4.55		Schwarz criterion			-0.43
Durbin-Watson statistic		2.33		Durbin-Watson statistic			2.63
F-statistic		932.59		*F*-statistic			65.06
Prob. (*F*-statistic)		0.00		Prob. (*F*-statistic)			0.00

Table 4.13 (Continued)

Dependent variable EMPL Estimated using ARDL (1, 1, 1, 0, 1, 1, 1, 0)				Dependent variable EMPL Estimated using ARDL (1, 1, 0, 1, 0, 0, 0, 1)			
India				**Sri Lanka**			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Variable**	**Coefficient**	**Standard Error**	***t*-statistic**
C	1.66	0.33	-5.10*	C	-10.77	3.44	-3.13*
EMPL(-1)	0.86	0.04	19.53*	EMPL(-1)	0.37	0.14	2.74*
FDI	-0.001	0.00	-2.50*	FDI	0.00	0.01	0.51
FDI(-1)	0.001	0.00	2.44*	FDI(-1)	0.02	0.01	2.21*
GCF	0.00	0.00	-0.31	GCF	0.00	0.05	-0.09
GCF(-1)	0.003	0.00	-2.37*	GDP	0.03	0.15	0.18
GDP	0.01	0.02	0.76	GDP(-1)	0.47	0.23	2.06*
INF	-0.001	0.00	-3.34*	INF	0.01	0.01	1.48
INF(-1)	-0.001	0.00	-1.87**	LIT	0.47	0.51	0.91
LIT	0.01	0.01	0.87	POP	0.87	0.24	3.67*
LIT(-1)	0.03	0.01	3.54*	CONS	-0.15	0.15	-1.02
POP	-6.68	1.54	-4.34*	CONS(-1)	-0.39	0.17	-2.21*
POP(-1)	6.69	1.56	4.28*	-	-	-	-
CONS	-0.02	0.02	-0.97	-	-	-	-
R-squared		0.99		R-squared			0.99
Adjusted R-squared		0.99		Adjusted R-squared			0.98
Akaike info criterion		-10.93		Akaike info criterion			-4.86
Schwarz criterion		-10.29		Schwarz criterion			-4.32
Durbin-Watson statistic		1.96		Durbin-Watson statistic			2.00
F-statistic		159351.3		*F*-statistic			284.00
Prob. (*F*-statistic)		0.00		Prob. (*F*-statistic)			0.00

Note: * and ** show significant at 5 and 10 percent, respectively.

Similarly in case of Model-II, the optimal ARDL estimation is brought about for which Table 4.14 summarizes the results. It is again observed of no spurious regression due to DW statistics being higher than respective upper bound DW critical values. Nevertheless, *F*-statistics are also held significant at 5 percent. Furthermore, coefficients of FORDBT that is core variable of interest are also significant on all periods at Pakistan and at different lags in case of India and Sri Lanka with the exception of Bangladesh. Most of the other explanatory variables and intercept of the model are also found significant at various lag periods.

Table 4.14

Optimal ARDL SAC (Model-II)

Dependent variable EMPL Estimated using ARDL (1, 3, 2, 2, 2, 2, 3, 1)				Dependent variable EMPL Estimated using ARDL (1, 0, 0, 0, 1, 0, 0, 0)			
Pakistan				**Bangladesh**			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Variable**	**Coefficient**	**Standard Error**	***t*-statistic**
C	-11.55	4.12	-2.81*	C	-40.72	46.44	-0.88
EMPL(-1)	-0.01	0.18	-0.07	EMPL(-1)	0.44	0.29	1.52
FORDBT	-0.05	0.02	-2.82*	FORDBT	0.04	0.16	0.24
FORDBT(-1)	-0.08	0.02	-3.78*	GCF	-2.95	2.46	-1.20
FORDBT(-2)	-0.05	0.02	-2.95*	GDP	-3.48	4.92	-0.71
FORDBT(-3)	-0.05	0.01	-3.28*	INF	-0.39	0.14	-2.87*
GCF	-0.06	0.07	-0.93	INF(-1)	-0.30	0.16	-1.83
GCF(-1)	0.21	0.08	2.48*	LIT	1.09	0.89	1.22
GCF(-2)	0.20	0.08	2.55*	POP	0.79	2.53	0.31
GDP	0.05	0.18	0.27	CONS	7.48	2.83	2.64*
GDP(-1)	-0.49	0.18	-2.82*	-	-	-	-
GDP(-2)	-0.13	0.10	-1.34	-	-	-	-
INF	0.01	0.01	1.36	-	-	-	-
INF(-1)	0.00	0.01	0.08	-	-	-	-
INF(-2)	0.03	0.01	2.71*	-	-	-	-
LIT	-0.21	0.19	-1.14	-	-	-	-
LIT(-1)	-0.10	0.20	-0.49	-	-	-	-
LIT(-2)	-0.43	0.22	-1.99**	-	-	-	-
POP	-72.50	18.32	-3.96*	-	-	-	-
POP(-1)	205.71	48.16	4.27*	-	-	-	-
POP(-2)	-206.34	45.34	-4.55*	-	-	-	-
POP(-3)	74.58	15.59	4.78*	-	-	-	-
CONS	0.06	0.13	0.43	-	-	-	-
CONS(-1)	0.33	0.12	2.70*	-	-	-	-
R-squared		0.99		R-squared			0.93
Adjusted R-squared		0.99		Adjusted R-squared			0.90
Akaike info criterion		-5.34		Akaike info criterion			-0.17
Schwarz criterion		-4.33		Schwarz criterion			0.28
Durbin-Watson statistic		2.50		Durbin-Watson statistic			2.19
F-statistic		712.43		*F*-statistic			34.91
Prob. (*F*-statistic)		0.00		Prob. (*F*-statistic)			0.00

Dependent variable EMPL Estimated using ARDL (1, 0, 0, 0, 1, 1, 1, 0)				Dependent variable EMPL Estimated using ARDL (2, 2, 2, 2, 1, 2, 0, 2)			
India				**Sri Lanka**			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Variable**	**Coefficient**	**Standard Error**	***t*-statistic**
C	1.43	0.42	-3.41*	C	-12.64	8.65	-1.46
EMPL(-1)	0.87	0.05	18.47*	EMPL(-1)	-0.42	0.35	-1.21
FORDBT	-0.001	0.00	-1.91**	EMPL(-2)	0.22	0.21	1.03
GCF	-0.01	0.00	-1.44	FORDBT	0.03	0.02	1.08
GDP	0.03	0.02	1.41	FORDBT(-1)	0.00	0.03	0.06
INF	-0.001	0.00	-2.05*	FORDBT(-2)	-0.08	0.03	-2.45*
INF(-1)	-0.001	0.00	-2.12*	GCF	0.23	0.09	2.68*
LIT	0.01	0.01	1.07	GCF(-1)	0.01	0.09	0.07
LIT(-1)	0.03	0.01	2.58*	GCF(-2)	-0.20	0.10	-2.02**
POP	-5.48	1.59	-3.45*	GDP	0.07	0.19	0.38
POP(-1)	5.50	1.61	3.41*	GDP(-1)	1.34	0.42	3.22
CONS	-0.03	0.02	-1.52	GDP(-2)	1.18	0.53	2.23*
-	-	-	-	INF	0.05	0.02	3.21*
-	-	-	-	INF(-1)	0.04	0.02	2.21*
-	-	-	-	LIT	4.47	1.41	3.16*
-	-	-	-	LIT(-1)	-6.78	2.82	-2.40*

Table 4.14 (Continued)

Dependent variable EMPL Estimated using ARDL (1, 0, 0, 0, 1, 1, 1, 0)				Dependent variable EMPL Estimated using ARDL (2, 2, 2, 2, 1, 2, 0, 2)			
India				**Sri Lanka**			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Variable**	**Coefficient**	**Standard Error**	***t*-statistic**
-	-	-	-	LIT(-2)	5.92	2.27	2.61*
-	-	-	-	POP	0.41	0.50	0.83
-	-	-	-	CONS	-0.99	0.31	-3.20*
-	-	-	-	CONS(-1)	-0.97	0.29	-3.34*
-	-	-	-	CONS(-2)	-0.66	0.35	-1.92**
R-squared		0.99		R-squared			0.99
Adjusted R-squared		0.99		Adjusted R-squared			0.98
Akaike info criterion		-10.65		Akaike info criterion			-4.73
Schwarz criterion		-10.11		Schwarz criterion			-3.78
Durbin-Watson statistic		1.64		Durbin-Watson statistic			2.63
F-statistic		140240.4		*F*-statistic			122.71
Prob. (*F*-statistic)		0.00		Prob. (*F*-statistic)			0.00

Note: * and ** show significant at 5 and 10 percent, respectively.

Complementarily on account of Model-III, there are brought an optimal ARDL estimation for each of SAC. The computed optimal ARDL models are given in Table 4.15. The findings suggest at each of the country at SAC that; the *F*-statistic are held significant at 5 percent. In addition to that, DW statistics also confirm for lack of auto correlation, since higher than relevant DW upper bound critical values.

Adjusted R^2 values are also higher and thereby ascertain for no spurious regression. On the other hand, at Pakistan, coefficients of FORAID are significant at current time and at two year lag. In the case of Bangladesh, FORAID is significant at lag of one year. In case of India and Sri Lanka, FORAID coefficient is found insignificant. As far as other variables are taken into notice, most of the regressors of the model at each of the SAC are also significant at 5 and 10 percent, respectively.

Table 4.15

Optimal ARDL SAC (Model-III)

Dependent variable EMPL Estimated using ARDL (1, 3, 1, 1, 3, 3, 3, 2)				Dependent variable EMPL Estimated using ARDL (1, 1, 0, 0, 1, 0, 0, 0)			
Pakistan				**Bangladesh**			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Variable**	**Coefficient**	**Standard Error**	***t*-statistic**
C	-6.60	5.42	-1.22	C	-60.18	45.22	0.19
EMPL(-1)	0.08	0.17	0.46	EMPL(-1)	0.35	0.28	1.26
FORAID	0.03	0.02	2.10*	FORAID	0.07	0.21	0.35
FORAID(-1)	0.03	0.02	1.66	FORAID(-1)	-0.41	0.21	-1.97**
FORAID(-2)	0.04	0.01	2.64*	GCF	-4.24	2.41	-1.76**
FORAID(-3)	0.02	0.02	1.09	GDP	-1.37	4.75	-0.29
GCF	-0.05	0.07	-0.66	INF	-0.38	0.13	-2.94*
GCF(-1)	0.09	0.07	1.32	INF(-1)	-0.28	0.15	-1.89**
GDP	-0.12	0.24	-0.50	LIT	0.74	0.90	0.82
GDP(-1)	-0.53	0.26	-2.04*	POP	1.85	2.47	0.75
INF	-0.01	0.01	-0.56	CONS	6.97	2.69	2.59*
INF(-1)	-0.02	0.01	-1.90**	-	-	-	-
INF(-2)	0.01	0.01	1.41	-	-	-	-
INF(-3)	-0.03	0.01	-3.88*	-	-	-	-
LIT	-0.25	0.18	-1.35	-	-	-	-
LIT(-1)	-0.17	0.18	-0.92	-	-	-	-
LIT(-2)	-0.21	0.20	-1.04	-	-	-	-
LIT(-3)	0.28	0.19	1.43	-	-	-	-
POP	-70.75	16.70	-4.24*	-	-	-	-
POP(-1)	202.17	44.50	4.54*	-	-	-	-
POP(-2)	-201.92	42.29	-4.77*	-	-	-	-
POP(-3)	71.27	14.43	4.94*	-	-	-	-
CONS	0.27	0.20	1.36	-	-	-	-
CONS(-1)	0.31	0.17	1.81**	-	-	-	-
CONS(-2)	0.08	0.05	1.61	-	-	-	-
R-squared		0.99		R-squared			0.94
Adjusted R-squared		0.99		Adjusted R-squared			0.91
Akaike info criterion		-5.41		Akaike info criterion			-0.27
Schwarz criterion		-4.36		Schwarz criterion			0.22
Durbin-Watson statistic		1.93		Durbin-Watson statistic			2.21
F-statistic		720.89		*F*-statistic			35.52
Prob. (*F*-statistic)		0.00		Prob. (*F*-statistic)			0.00

India Dependent variable EMPL Estimated using ARDL (2, 0, 0, 1, 1, 2, 1, 0)				**Sri Lanka** Dependent variable EMPL Estimated using ARDL (1, 0, 0, 0, 0, 0, 0, 0)			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Variable**	**Coefficient**	**Standard Error**	***t*-statistic**
C	1.06	0.62	1.70**	C	-11.50	3.61	-3.19*
EMPL(-1)	1.31	0.20	6.49*	EMPL(-1)	0.52	0.15	3.54*
EMPL(-2)	-0.43	0.19	-2.20*	FORAID	0.00	0.02	-0.22
FORAID	0.00	0.00	1.09	GCF	0.05	0.05	1.06
GCF	0.00	0.00	-0.82	GDP	0.07	0.17	0.40
GDP	0.03	0.02	1.33	INF	0.00	0.01	0.48
GDP(-1)	0.00	0.00	-1.48	LIT	0.36	0.57	0.64
INF	-0.001	0.00	-3.37*	POP	0.88	0.28	3.18*
INF(-1)	-0.001	0.00	-1.96**	CONS	-0.14	0.15	-0.93
LIT	0.00	0.01	0.18	-	-	-	-
LIT(-1)	0.02	0.01	2.10*	-	-	-	-
LIT(-2)	0.02	0.01	1.25	-	-	-	-
POP	-4.16	1.64	-2.54*	-	-	-	-
POP(-1)	4.18	1.65	2.54*	-	-	-	-
CONS	-0.02	0.02	-1.15	-	-	-	-

Table 4.15 (Continued)

India		Sri Lanka	
Dependent variable EMPL Estimated using ARDL (2, 0, 0, 1, 1, 2, 1, 0)		Dependent variable EMPL Estimated using ARDL (1, 0, 0, 0, 0, 0, 0, 0)	
R-squared	0.99	R-squared	0.98
Adjusted R-squared	0.99	Adjusted R-squared	0.98
Akaike info criterion	-10.91	Akaike info criterion	-4.66
Schwarz criterion	-10.23	Schwarz criterion	-4.26
Durbin-Watson statistic	2.09	Durbin-Watson statistic	2.07
F-statistic	134291.1	*F*-statistic	305.22
Prob. (*F*-statistic)	0.00	Prob. (*F*-statistic)	0.00

Note: * and ** show significant at 5 and 10 percent, respectively.

Additionally, optimal ARDL estimations at SAC are computed on Model-IV. The results are published in Table 4.16 that expose higher adjusted R^2 value. In supplement to that, in view of DW statistics those are higher than respective upper bound critical values also confirm of neither the traces of autocorrelation nor do the spurious regression. Apart from that, *F*-statistics are also held significant at 5 percent.

Table 4.16
Optimal ARDL SAC (Model-IV)

Dependent variable EMPL Estimated using ARDL (1, 1, 1, 1, 0, 3, 0)				Dependent variable EMPL Estimated using ARDL (1, 1, 0, 0, 0, 0, 0)			
Pakistan				**Bangladesh**			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Variable**	**Coefficient**	**Standard Error**	***t*-statistic**
C	0.27	2.36	0.12	C	-31.59	25.08	-1.26
EMPL(-1)	0.03	0.21	0.16	EMPL(-1)	0.55	0.12	4.48*
WREM	0.03	0.01	2.08*	WREM	-1.11	0.31	-3.57*
WREM(-1)	0.03	0.01	2.54*	WREM(-1)	1.48	0.36	4.07*
GCF	-0.03	0.05	-0.54	GCF	-2.12	0.73	-2.91*
GCF(-1)	0.05	0.04	1.48	INF	-0.29	0.11	-2.51*
INF	0.00	0.01	-0.17	LIT	0.77	0.63	1.23
INF(-1)	-0.02	0.01	-2.42*	POP	1.88	1.44	1.30
LIT	-0.14	0.17	-0.85	CONS	1.64	0.99	1.66*
POP	-87.97	23.52	-3.74*	-	-	-	-
POP(-1)	244.00	62.44	3.91*	-	-	-	-
POP(-2)	-237.72	58.06	-4.09*	-	-	-	-
POP(-3)	82.03	19.18	4.28*	-	-	-	-
CONS	0.12	0.06	1.79**	-	-	-	-
R-squared		0.99		R-squared			0.94
Adjusted R-squared		0.99		Adjusted R-squared			0.93
Akaike info criterion		-4.86		Akaike info criterion			-0.58
Schwarz criterion		-4.27		Schwarz criterion			-0.17
Durbin-Watson statistic		1.97		Durbin-Watson statistic			2.68
F-statistic		111.16		*F*-statistic			59.06
Prob. (*F*-statistic)		0.00		Prob. (*F*-statistic)			0.00

Table 4.16 (Continued)

Dependent variable EMPL Estimated using ARDL (2, 0, 2, 1, 1, 1, 2)				Dependent variable EMPL Estimated using ARDL (1, 0, 0, 0, 0, 0, 0)			
India				**Sri Lanka**			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Variable**	**Coefficient**	**Standard Error**	***t*-statistic**
C	-0.18	0.59	-0.29	C	-11.61	3.48	-3.34*
EMPL(-1)	1.28	0.16	7.99*	EMPL(-1)	0.52	0.14	3.71*
EMPL(-2)	-0.49	0.16	-3.15*	WREM	0.01	0.06	0.23
WREM	0.00	0.00	1.58	GCF	0.06	0.05	1.11
GCF	0.00	0.00	0.05	INF	0.00	0.01	0.41
GCF(-1)	0.00	0.00	-0.30	LIT	0.33	0.55	0.60
GCF(-2)	-0.01	0.00	-2.08*	POP	0.90	0.25	3.54*
INF	-0.001	0.00	-2.64*	CONS	-0.10	0.06	-1.48
INF(-1)	-0.001	0.00	-1.83**	-	-	-	-
LIT	0.00	0.01	-0.03	-	-	-	-
LIT(-1)	0.01	0.01	1.24	-	-	-	-
POP	-4.74	1.64	-2.88*	-	-	-	-
POP(-1)	4.87	1.64	2.97*	-	-	-	-
CONS	0.00	0.01	0.38	-	-	-	-
CONS(-1)	0.00	0.01	-0.50	-	-	-	-
CONS(-2)	0.01	0.00	2.53*	-	-	-	-
R-squared		0.99		R-squared			0.98
Adjusted R-squared		0.99		Adjusted R-squared			0.98
Akaike info criterion		-11.02		Akaike info criterion			-4.72
Schwarz criterion		-10.29		Schwarz criterion			-4.36
Durbin-Watson statistic		2.49		Durbin-Watson statistic			2.00
F-statistic		140880.7		*F*-statistic			360.94
Prob. (*F*-statistic)		0.00		Prob. (*F*-statistic)			0.00

Note: * and ** show significant at 5 and 10 percent, respectively.

Findings on the coefficients suggest that WREM is significant at 5 percent in case of Pakistan and Bangladesh only at various lags. Most of the other variables those are included in the respective model at each of SAC are also found significant.

4.6.3 Bound Test for Cointegration

At the present, the state of position to be-with in ARDL approach is the estimation of each of the Model-I to Model-IV at SAC by the mean of OLS, at designated lag length. It is to either establish or reject the notion of the existence of long run relationship between the variables.

At the prelim, Table 4.17 represents the specification of Model-I where the core concern is to look into FDI and EMPL for the existence of their long run

relationship, either. The respective *F*-statistics at each country are 5.48, 3.29, 62.94, and 2.95. It is found that each of the *F*-statistic is held higher than the corresponding upper bound critical value of 3.21 and also significant at 5 percent. Therefore, the conclusion fixes here is to validate that; H_0 of the no appearance of long run relationship is rejected at each country case. Reviewing long run relationship between the selected variables in Model-II, the value of *F*-statistic at Bangladesh is 1.26 which is insignificant and lower than the relevant upper bound critical value. At rest of the countries, the *F*-statistics are 7.54, 48.77, and 3.17 which are greater than their respective upper bound critical value of 3.21 and are nevertheless significant at 5 percent. Therefore, the H_0 of no long run relationship between FORDBT and EMPL is held true at Bangladesh but is rejected at Pakistan, India, and Sri Lanka.

Table 4.17
Bound Test for Cointegration SAC

	F-statistic			
Equations/Model-I	**Pakistan**	**Bangladesh**	**India**	**Sri Lanka**
F_{EMPL} (EMPL/ FDI, GCF, GDP, INF, LIT, POP, CONS)	5.48*	3.29*	62.94*	2.95*
F_{FDI} (FDI/ EMPL, GCF, GDP, INF, LIT, POP, CONS)	7.83*	11.69*	3.04**	3.91*
F_{GCF} (GCF/ EMPL, FDI, GDP, INF, LIT, POP, CONS)	7.33*	10.13*	5.95*	4.59*
F_{GDP} (GDP/ EMPL, FDI, GCF, INF, LIT, POP, CONS)	3.27*	5.64*	4.15*	7.74*
F_{INF} (INF/ EMPL, FDI, GCF, GDP, LIT, POP, CONS)	3.63*	4.91*	3.96*	3.55*
F_{LIT} (LIT/ EMPL, FDI, GCF, GDP, INF, POP, CONS)	4.14*	3.89*	3.15**	4.69*
F_{POP} (POP/ EMPL, FDI, GCF, GDP, INF, LIT, CONS)	17.67*	9.87*	5.53*	3.75*
F_{CONS} (CONS/ EMPL, FDI, GCF, GDP, INF, LIT, POP)	4.91*	3.50*	3.16**	6.29*
Equations/Model-II				
F_{EMPL} (EMPL/ FORDBT, GCF, GDP, INF, LIT, POP, CONS)	7.54*	1.26	48.77*	3.17*
F_{FORDBT} (FORDBT/ EMPL, GCF, GDP, INF, LIT, POP, CONS)	5.02*	-	6.97*	5.25*
F_{GCF} (GCF/ EMPL, FORDBT, GDP, INF, LIT, POP, CONS)	3.19*	-	3.42*	3.78*
F_{GDP} (GDP/ EMPL, FORDBT, GCF, INF, LIT, POP, CONS)	4.45*	-	3.37*	9.29*
F_{INF} (INF/ EMPL, FORDBT, GCF, GDP, LIT, POP, CONS)	3.75*	-	3.44*	5.52*
F_{LIT} (LIT/ EMPL, FORDBT, GCF, GDP, INF, POP, CONS)	7.01*	-	4.96*	13.12*
F_{POP} (POP/ EMPL, FORDBT, GCF, GDP, INF, LIT, CONS)	12.71*	-	12.03*	4.08*
F_{CONS} (CONS/ EMPL, FORDBT, GCF, GDP, INF, LIT, POP)	4.65*	-	3.48*	9.48*

Table 4.17 (Continued)

	F-statistic			
Equations/Model-III	**Pakistan**	**Bangladesh**	**India**	**Sri Lanka**
F_{EMPL} (EMPL/ FORAID, GCF, GDP, INF, LIT, POP, CONS)	7.53*	1.36	4.08*	3.37*
F_{FORAID} (FORAID / EMPL, GCF, GDP, INF, LIT, POP, CONS)	7.85*	-	3.62*	3.67*
F_{GCF} (GCF/ EMPL, FORAID, GDP, INF, LIT, POP, CONS)	3.95*	-	4.50*	3.00*
F_{GDP} (GDP/ EMPL, FORAID, GCF, INF, LIT, POP, CONS)	10.00*	-	4.83*	5.32*
F_{INF} (INF/ EMPL, FORAID, GCF, GDP, LIT, POP, CONS)	5.40*	-	3.71*	3.42*
F_{LIT} (LIT/ EMPL, FORAID, GCF, GDP, INF, POP, CONS)	3.30*	-	2.96**	4.79*
F_{POP} (POP/ EMPL, FORAID, GCF, GDP, INF, LIT, CONS)	7.45*	-	4.35*	5.41*
F_{CONS} (CONS/ EMPL, FORAID, GCF, GDP, INF, LIT, POP)	11.40*	-	3.06**	6.03*
Equation/Model-IV				
F_{EMPL} (EMPL/ WREM, GCF, INF, LIT, POP, CONS)	4.46*	7.88*	5.15*	3.93*
F_{WREM} (WREM/ EMPL, GCF, INF, LIT, POP, CONS)	12.88*	4.69*	5.35*	5.57*
F_{GCF} (GCF/ EMPL, WREM, INF, LIT, POP, CONS)	5.02*	7.12*	3.46*	12.19*
F_{INF} (INF/ EMPL, WREM, GCF, LIT, POP, CONS)	4.43*	3.12**	3.67*	3.06*
F_{LIT} (LIT/ EMPL, WREM, GCF, INF, POP, CONS)	4.29*	8.51*	5.31*	3.92*
F_{POP} (POP/ EMPL, WREM, GCF, INF, LIT, CONS)	26.13*	5.81*	7.01*	7.05*
F_{CONS} (CONS/ EMPL, WREM, GCF, INF, LIT, POP)	5.19*	8.13*	2.98**	5.05*

Note: * and ** are to designate that computed *F*-statistics are significant at 5 and 10 percent, respectively. The critical values next to I(1) are viewed in Pesaran *et al.* (2001).

In sequel of the objective to look into the state of cointegration in case of Model-III, the computed *F*-statistics at Pakistan, India, and Sri Lanka are found to be 7.53, 4.08, and 3.37 which are for instance significant at 5 percent and are greater than upper bound critical value of 3.21. Thus, the H_0 is disapproved and discarded and long run relationship is ascertained among EMPL and FORAID. On the contrary, in case of Bangladesh, the *F*-statistic is insignificant and lower than the respective upper bound critical value therefore no long run relationship is established. Leaping further on account of Model-IV, the respective *F*-statistics are stared at 4.46, 7.88, 5.15, and 3.93. Each of those is significant at 5 percent and higher than the upper bound critical value of 3.28. Therefore, it is not less obvious to state that H_0 which facilitates to nullify the long run association between WREM and EMPL is lacked behind and is hereby discarded at each of the country at South Asia.

On the similar note, wherever necessary, bound test is repeatedly done by considering each regressor in the model as a dependent variable and is hence checked for whether maintains long run relationship with the rest of the explanatory variables is however confirmed, since computed *F*-statistics at each of the selected SAC are significant as well as being higher than respective upper bound critical values.

4.6.4 Estimation of Long Run Coefficients

After established a version that long run association is present among the variables of study at SAC, the next step is to explore the results on the estimates of long run coefficients. In this respect, Table 4.18 illuminates the results on Model-I.

Table 4.18
Estimation of Long Run Coefficients SAC (Model-I)

Dependant variable EMPL						
	Pakistan			**Bangladesh**		
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Coefficient**	**Standard Error**	***t*-statistic**
C	-10.45	4.78	-2.19*	-78.55	45.94	-1.71**
FDI	-0.04	0.02	-2.14*	-0.14	0.07	-2.02*
GCF	0.20	0.12	1.67	-8.01	1.38	-5.79*
GDP	-0.73	0.36	-2.02**	15.52	5.49	2.83*
INF	-0.04	0.02	-2.34*	-0.70	0.39	-1.77**
LIT	-0.61	0.22	-2.77*	3.76	1.87	2.01*
POP	1.14	0.38	2.98*	1.46	3.68	0.40
CONS	0.67	0.23	2.95*	-5.99	5.21	-1.15
Dependant variable EMPL						
	India			**Sri Lanka**		
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Coefficient**	**Standard Error**	***t*-statistic**
C	12.03	4.87	2.47*	-17.16	4.18	-4.11*
FDI	0.00	0.00	-0.20	0.04	0.02	1.99*
GCF	-0.03	0.03	-1.00	-0.01	0.08	-0.09
GDP	0.11	0.16	0.66	0.79	0.35	2.25*
INF	-0.02	0.01	-3.49*	0.02	0.01	1.65
LIT	0.30	0.12	2.48*	0.74	0.80	0.93
POP	0.07	0.23	0.30	1.39	0.26	5.39*
CONS	-0.11	0.14	-0.78	-0.85	0.35	-2.45*

Note: * and ** show significant at 5 and 10 percent, respectively.

It is found that the coefficient of FDI is significant at 5 percent in all SAC except that of India. Therefore, the hypothesis stands to be true in the sense that; FDI is significant in possessing impact on EMPL in Pakistan, Bangladesh, and Sri Lanka. However, it is quite meaningful to note that the relationship of FDI with EMPL is found negative at Pakistan and Bangladesh but positive at Sri Lanka. The intensity of impact is strong in case of Bangladesh where one percent increase in FDI dampens EMPL by 0.14 percent. For Pakistan, reduction of 0.04 percent in EMPL is recorded at the back of one percent rise in FDI whereas for Sri Lanka, it is illuminated that; one percent increase in FDI leads to increase EMPL by 0.04 percent.

It does not seem to be less expectable in the world of today where most of the advances in capital accumulation are of the standings to substitute labor for capital, since crowding out effects of such investments are concerned (Wei, 2013; Hisarcıklılar *et al.*, 2014). Foreign investors too, intend to fascinate their strength of business footing on the ground of more and more mechanization with the usage of labor just to operate those and less to be involved in the robot based sort of production houses. The results at Pakistan and Bangladesh are therefore compatible with that of Massoud (2008), Mucuk and Demirsel (2013), and Jude and Silaghi (2016) who discovered that FDI leads the recipient towards the bear of the displacement of the labor i.e. downsizing.

On the same note, Sunkel (1973) commended that the multinational firms intend to take a privilege of taking a foothold in the working and other decisions of a recipient country and are found as deliberately using the technology that is capital intensive which leads to increase the volume of surplus labor. Nevertheless, foreign firms are conservative in holding an aim to train local personnel, thus imperatively affect the consumption behavior and at the ultimate, host country has to rely upon

foreign equipments, technology, financing, and etc. toward the industrialization due to the importation of capital intensive form of mechanics which discourage the labor engagements into the productive activities. In previous, the research work of Braunstein and Epstein (2002) and Jenkins (2006) found least effect of FDI on the employment due to the reason that FDI is much to do with skills and technology. Subsequently, congregation of empirics such as Rizvi and Nishat (2009), Akcoraoglu and Acikgoz (2011), and henceforth Onimisi (2014) and Brincikova and Darmo (2014) also came along with the findings that FDI had to have no such positive amalgamation on the level of employment. On the other hand, as FDI is well thought form of FCI that engages labor force into employment, the findings at Sri Lanka are sequenced with Jayaraman and Singh (2007), Bekhet and Mugadleh (2013) and Malik *et al.* (2011).

Furthermore, since it is concluded that there is present a long run relationship in Model-II in case of Pakistan, India, and Sri Lanka, the next step is of realizing the impact of changes of the regressors on the dependent variable. The results presented in Table 4.19 clarify that the coefficient of FORDBT is significant at 5 percent at Pakistan and India. Therefore, at these countries of South Asia, the hypothesis is held true that FORDBT is significant in its effect on EMPL. Subsequently, the findings clarify that FORDBT stands to have negative effect on EMPL. That is; in case of Pakistan, one percent increase in FORDBT curtails EMPL by about 0.23 percent whereas in India, the EMPL is to condense by 0.01 percent, given one percent increase in FORDBT.

Table 4.19

Estimation of Long Run Coefficients SAC (Model-II)

Dependant variable EMPL

	Pakistan			India		
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Coefficient**	**Standard Error**	***t*-statistic**
C	-11.39	3.82	-2.98*	11.25	6.06	1.86**
FORDBT	-0.23	0.05	-4.99*	-0.01	0.01	-1.68**
GCF	0.34	0.09	3.47*	-0.05	0.04	-1.17
GDP	-0.57	0.23	-2.43*	0.24	0.23	1.05
INF	0.04	0.02	2.52*	-0.02	0.01	-2.56*
LIT	-0.73	0.22	-3.39*	0.29	0.15	1.90**
POP	1.43	0.32	4.53*	0.09	0.29	0.32
CONS	0.38	0.14	2.64*	-0.22	0.21	-1.05

Dependant variable EMPL

	Sri Lanka		
Variable	**Coefficient**	**Standard Error**	***t*-statistic**
C	-10.55	6.96	-1.52
FORDBT	-0.04	0.04	-0.96
GCF	0.03	0.06	0.53
GDP	2.16	0.46	4.73*
INF	0.07	0.02	4.59*
LIT	3.02	1.34	2.24*
POP	0.34	0.42	0.81
CONS	-2.19	0.45	-4.81*

Note: * and ** show significant at 5 and 10 percent, respectively.

It is no doubt that FORDBT falls among the components of FCI (Obadan, 2004); however, the upsurge of foreign capital does carry the traces of inherent risk. Foreign capital and its increase of mobility is, somewhat often, considered as having mixed blessed consequence due to the exposition of the recipient country towards the external shocks. According to Baharumshah and Thanoon (2006), short term flows of capital intend to increase the fragility of financial system thus destabilizes the entire state of economy. The impact of external debt obligations destabilizes the macroeconomic stature of the recipient country in result of too much of the external debt obligations[18]. The matter of job creation is also one of the macroeconomic aspects. It is thus not that surprising to note that the exposition of FORDBT is held negative on employment. External debt and liabilities are viewed as more volatile as compared to other components of FCI. It is due to the reason that their sudden reversal in terms of the policy changes and implications defined by the donors and/or

the charge of heavy interest rates repayable along with that of principal component pose heavy burden on the country's GDP.

For instance, as debt to GDP ratio of Pakistan and India stand at 25 percent and 67.70 percent, such exposure of external debt consequences fails to permit in carrying out stable long run planning, that is a prerequisite, for transforming all such funds into employment creation. Certain concerns have been raised while testing for the effects of external debt i.e. on growth, on the bases of its measurement. Tiruneh (2003) enforced to have a bifurcated view of external debt, instead of taking aggregation sum of the same. Unsurprisingly, targeting external debt and its macroeconomic spillovers, for Pakistan and India, it is envisioned that internal mismanagements tend to promote otherwise sequels of external debt those are otherwise foreseen to be optimistic (Iqbal & Zahid, 1998; Siddiqui & Malik, 2001).

Afterwards the long run association is found in Model-III excluding Bangladesh, at present, it is to discover the state of position of long run coefficient at SAC. The findings are exposed in Table 4.20 which authenticate that the coefficient of FORAID is only held significant at 5 percent at Pakistan. Therefore, the hypothesis is held true that EMPL of Pakistan is significantly affected by FORAID. Nevertheless, unlike FDI and FORDBT, FORAID is found positive in its relationship with EMPL. The findings on FORAID show that one percent increase leads to amplify EMPL by 0.13 percent.

Table 4.20

Estimation of Long Run Coefficients SAC (Model-III)

Dependant variable EMPL

	Pakistan			India		
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Coefficient**	**Standard Error**	***t*-statistic**
C	-7.15	5.64	-1.27	8.67	6.18	1.40
FORAID	0.13	0.05	2.47*	0.01	0.01	0.94
GCF	0.05	0.08	0.62	-0.03	0.04	-0.74
GDP	-0.71	0.43	-1.66	0.18	0.20	0.88
INF	-0.04	0.01	-3.61*	-0.03	0.01	-2.68*
LIT	-0.37	0.23	-1.60	0.34	0.19	1.73**
POP	0.84	0.41	2.03**	0.16	0.30	0.55
CONS	0.38	0.14	2.64*	-0.17	0.19	-0.88

Dependant variable EMPL

	Sri Lanka		
Variable	**Coefficient**	**Standard Error**	***t*-statistic**
C	-23.79	6.21	-3.83*
FORAID	-0.01	0.03	-0.23
GCF	0.11	0.11	0.97
GDP	0.14	0.33	0.41
INF	0.01	0.02	0.49
LIT	0.75	1.22	0.62
POP	1.83	0.33	5.48*
CONS	-0.29	0.31	-0.94

Note: * and ** show significant at 5 and 10 percent, respectively.

As posited earlier by Juselius *et al.* (2014), need for the investment capital is essential and for no doubt an affluent flow of the same is however a requisite for settling down the interruptions in macroeconomic conditions where creation of employment is one of the core issues. The findings of the study suggest that among the categories of FCI, there is one that is FORAID which tends to possess positive nature of effects on employment[19]. Results on long run coefficient of FORAID on EMPL admit the earlier argument of Friedman (1995), Page and Söderbom (2015), and Little and Mirrlees (1974) that; foreign aid covers up the breach of saving and investment by facilitating the recipient country in having the accelerating flow of capital base, backed-up by the fetch of FORAID[20]. Friedman (1995) as a theorist out looked that; funds got in context of foreign aid enable the adherent to bring along economic development when the capital is dispensed through proper channels.

Whereas Little and Mirrlees (1974) and Juselius *et al.* (2014) meant economic development as absent unless GDP is augmented as well as the employment level. FORAID, as pointed by Adam and O' Connell (1999), is a source of decision making on the ground of fiscal policy easements (tax cut). Whereas tax cut is an augmenting factor for the employment creation (Keynes, 1936). The finding of this study is in line with all of such theoretical perceptions. Moreover, the discovery of the relationship of FORAID and EMPL further acknowledges that was earlier spoken by Isse (1988) and Simpasa *et al.* (2015) that; if FORAID is spent unseemly, leads to be non-productive however, utilization on the ground of cautiously created mechanism promptly promises for the increase in human capital utilization. Nevertheless, Lewis (1954) linked economic growth with foreign aid as being source of capital that was later spoken up by Dunning and Lundan (2008) in the tone of employment-led-growth.

Lastly, in line with the earlier models, Table 4.21 specifies the summary of estimated long run coefficients on Model-IV for each of SAC, since established long run relationship at each country. The results indicate that the coefficient of WREM stands to be significant at 5 and 10 percent respectively at all of SAC apart from Sri Lanka. Thus, substantiates that EMPL of Pakistan, Bangladesh, and India is significantly affected by WREM. In addition to that, on account of looking towards the directions and strengths of impact, it is instituted that; one percent increase in WREM brings up increase of 0.06 to EMPL in case of Pakistan. The increase of 0.01 percent in EMPL is documented at the back of one percent increase in WREM at India whereas for EMPL of Bangladesh, the intensity of effect is comparatively large where WREM are held as a reason for 0.83 percent increase in EMPL, given one percent increase in the same.

Table 4.21

Estimation of Long Run Coefficients SAC (Model-IV)

Dependant variable EMPL

	Pakistan			Bangladesh		
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Coefficient**	**Standard Error**	***t*-statistic**
C	0.28	2.45	0.11	-70.69	40.73	-1.73**
WREM	0.06	0.01	4.53*	0.83	0.50	1.68**
GCF	0.03	0.05	0.59	-4.75	1.13	-4.20*
INF	-0.03	0.01	-2.72*	-0.64	0.27	-2.37*
LIT	-0.15	0.16	-0.89	1.72	1.58	1.09
POP	0.34	0.17	1.96**	4.21	2.49	1.69**
CONS	0.12	0.05	2.18*	3.68	1.67	2.20*

Dependant variable EMPL

	India			Sri Lanka		
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Coefficient**	**Standard Error**	***t*-statistic**
C	-0.84	2.76	-0.30	-24.32	6.54	-3.72*
WREM	0.01	0.01	1.75**	0.03	0.11	0.24
GCF	-0.03	0.02	-1.78**	0.12	0.12	1.00
INF	-0.01	0.00	-3.29*	0.01	0.01	0.41
LIT	0.06	0.06	0.97	0.70	1.20	0.58
POP	0.62	0.12	5.07*	1.88	0.29	6.38*
CONS	0.05	0.03	2.02*	-0.20	0.13	-1.55

Note: * and ** show significant at 5 and 10 percent, respectively.

Stimulation of employment and production level is brought into play by the mean of WREM, as being one of the variants of FCI (Malik *et al.*, 2011; Imai *et al.*, 2014). Earlier, same trend is optimized by the empirics in exposure of their verdict that WREM tend to increase the rate of capital formation, thus carry the advantage of augmentation in the level of employment of the host country (Glytsos, 1993). Nonetheless, WREM are declared as instruments those may be used to reduce the undue pressures in respect of unemployment (Amjad, 1986)[21]. Theorists and empirics denoted assorted state of being of employment in response to WREM, though sighting the prompt role of consumption expenditure as an intermediary in the overall process of call for the new jobs (Conway, 1992; Kovtun *et al.*, 2014). Doorn (2004) also favored the argument on the positive note thus realizing that the receiving of remittance income, in consequence of exportation of workers abroad, not only does strengthen the inter-nation ties rather also accelerate the development process of the

recipient country and thereby favor the labor market. Further, Imran (2004) also stated supportive arguments in respect of employment and WREM while amalgamating the concept of "trickle-down effect"[22]. The effects of WREM are of considerable weightage for the aspirant (Mughal & Makhlouf, 2013). It is because WREM not only do effect the demand side i.e. by initiating an increase in the amount of disposable income of a particular family that receives rather have to have an effect on account of supply side of the economy as well, i.e. in respect of enhancing the total liquidity of money thus favoring the level of investment and production (Malik *et al.*, 2011; Imai *et al.*, 2014). To conclude herewith, the findings of the study though post significant positive relationship of WREM and employment however, the intensity of an effect is quite petite. One of the reasons here may be the fact that too much of the income earned by the people abroad is not sent through the proper channel (Banks), thus as it is not used by the state authorities (government), therefore does not have any outsized contribution from the government in favoring the level of investment and consumption that is to further bring any higher add-ups in the job creation.

To intricate in succinct the long run relationship of EMPL and rest of the variables used in each model i.e. Model-I to Model-IV, begins with GCF. As prescribed by the theorists and researchers such as Pissarides (2000), Kahn (1931), Keynes (1936), Awan *et al.* (2010), and Imran *et al.* (2013), the findings are aligned to write positive and significant relationship of the two. However, of the four long run models, long run coefficient of GCF is only found significant in Model-II as well as intensive in affectation on EMPL in Pakistan. GCF formally known as domestic investment is a base line for swelling up level of employment in an economy. As nominated by Conway (1992), GCF is successful stimulator for job creation for the unemployed and is prompt collaborator in building up the foundations for innovative

jobs for on-job too. In case of Bangladesh and India, the coefficient of GCF is found negative that reflects of no such EMPL spell outs. On the dissimilar note to Onimisi (2014), GDP, at large, established significant negative state of being to EMPL in the models where used, unlike the case in Bangladesh and Sri Lanka. In Pakistan, FDI tends to have significant positive effect on GDP (Mehmood & Hassan, 2015) therefore together FDI and GDP appear on the same footing while to pose any effect on the level of EMPL. The advancements in businesses and industries resting on FCI that later proliferate economic growth and exports come from the capital intensive techniques instead of the too much utilization of the labor (Jude & Silaghi, 2016).

In case of INF, the intensity of impact on EMPL in entire models is significant and mostly negative at all SAC thereby contributing to trim down EMPL. The results stand to proof the Lerner (1967) arguments of cutting short of rising prices that are more to affect EMPL. It is because INF makes the individuals (consumers & producers) uncertain in being decisive. Thus, building up false anticipations about the future prices upset the current demand for the goods and services therefore, concluded to condense the quantity of hiring additional labor. To Lerner (1967), rising price level may not be augmenting the production cycle thus signals producer to lay off workers due to the condensed nature of product demand referring the future anticipations about the prices changes, for instance higher or either false[23]. However, when bargaining power of labor is strong and is met in the realization of undisturbed future demand of products, fails to disturb labor hiring. It is due to the reason that a rise in the price level i.e. low inflationary pressures with stable markets never make producers to behave less optimistic in grabbing additional labor rather undisturbed market demand in the presence of low inflation enhances confidence on part of producers (Mehmood & Faridi, 2013).

Looking onto LIT, the long run coefficient is held significant in most of the models at all of SAC but with negative sign all the way in Pakistan[24]. The findings are in compliance with Narender and Dhankar (2016), at public sector, and to Malik *et al.* (2011). It is because of the fact that LIT is calculated on the criteria of the people of 15 years and above who are able to understand, read, and write up the simpler statements or make up simple arithmetic findings. The inculcation of such people is less effective for any sort of well mechanized production concerns. In case of rest of countries, LIT is viewed as a contributory towards EMPL.

Subsequently, there is found significant and positive connection between level of POP and EMPL at all SAC. Being populous countries of South Asia, it is worth noticing that EMPL is being adjusted for a rise in the POP. It is quite appreciable to note again that rise in POP is less effective in burdening the government in respect of unemployment pressures[25]. Wrapping up the comments, Keynes (1936) stressed that the CONS is important determinant of EMPL. Same is the acknowledgement of theorists like Lerner (1967) and Barro (1981). The findings collaborate with Cavallo (2005) and Fatás and Mihov (1998). Exclusive of Sri Lanka where some of the significant negative associations are evident among CONS and EMPL, in case of all the models estimated for Pakistan and at Model-IV for Bangladesh and India, since long run coefficient of CONS is held significant and is originated as heightening EMPL, thus complements the expression of Keynes (1936) that; CONS not only does enlarge the horizon of employment base rather also enhance the confidence of business class to keep moving along the rising patterns of the production and is hence an ultimate source of employment creation[26].

4.6.5 Estimation of Short Run Coefficients

Knowing that the cointegrated variable should have representation of ECM, thus for each of SAC, it is obligated to show the short run relationship dynamics between the variables as defined in Equation [34] of Model-I. The findings are thereby revealed in Table 4.22. It is observed that in case of Pakistan and Bangladesh as the relationship of EMPL with FDI, found in case of long run coefficient estimations, in case of short run too, FDI exhibits negative impact on an EMPL and statistically significant. The negative sign is found in case of first differenced however at India, the impact is relatively small but significant at same state. The short run FDI coefficient at Sri Lanka is insignificant.

As significant and negative short run connections are unveiled, thus make the reasoning quite stronger that capital accumulations are intended to deploy capital in lieu of the labor. Same has been the state of description about the relationship of FDI and EMPL by Sunkel (1973), Akcoraoglu and Acikgoz (2011), and Bekhet and Mugableh (2016). Notably, the coefficients of ECT are recorded to be as; -0.68, -0.49, -0.14 and -0.59 respectively and nevertheless significant.

This state of ECM provides confidence to elaborate that in case of all the countries at South Asia, the integrated variables do converge towards the long run equilibrium, while are deviated from the said state but at different rate. Amongst the SAC, at India, the rate of convergence towards the long run equilibrium is the lowest.

Table 4.22

Estimation of Short Run Coefficients SAC (Model-I)

Dependant variable EMPL

Pakistan				Bangladesh			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Variable**	**Coefficient**	**Standard Error**	***t*-statistic**
D(FDI)	-0.02	0.01	-2.82*	D(FDI)	-0.07	0.01	-10.31*
D(FDI(-1))	-0.004	0.00	-3.13*	D(GCF)	-0.25	0.56	-0.45
D(GCF)	-0.11	0.03	-3.26*	D(GDP)	-4.01	1.20	-3.35*
D(GDP)	0.24	0.09	2.55*	D(INF)	-0.13	0.06	-2.26*
D(INF)	0.01	0.01	1.53	D(LIT)	0.38	0.50	0.75
D(INF(-1))	0.03	0.00	4.24*	D(POP)	0.72	1.45	0.50
D(INF(-2))	0.04	0.01	7.76*	D(CONS)	4.72	0.91	5.17*
D(LIT)	-0.33	0.11	-2.99*	C	-38.30	4.79	-8.00*
D(POP)	-56.92	9.29	-6.13*	*ECT*	-0.49	0.06	-8.73*
D(POP(-1))	104.95	17.07	6.15*	-	-	-	-
D(POP(-2))	-59.25	8.87	-6.68*	-	-	-	-
D(CONS)	0.07	0.08	0.87	-	-	-	-
C	-7.08	0.88	-8.01*	-	-	-	-
ECT	-0.68	0.07	-9.21*	-	-	-	-
R-Squared			0.79	R-Squared			0.70
Adjusted R-Squared			0.59	Adjusted R-Squared			0.50
Durbin-Watson Statistic			2.45	Durbin-Watson Statistic			2.40
F-statistic			3.93*	*F*-statistic			3.56*
Diagnostic Checking		***F*-statistics**	**Prob.**			***F*-statistics**	**Prob.**
Lagrange Multiplier (LM) test		1.21	0.28			2.31	0.13
ARCH test for Heteroscedasticity		1.68	0.20			0.91	0.35
Ramsey's RESET		0.10	0.92			3.33	0.00
Jarque-Bera test for the Normality		1.02	0.60			2.50	0.29

India				Sri Lanka			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Variable**	**Coefficient**	**Standard Error**	***t*-statistic**
D(FDI)	-0.001	0.00	-4.13*	D(FDI)	0.00	0.01	0.67
D(GCF)	-0.00	0.00	-0.22	D(GCF)	0.00	0.04	0.05
D(GDP)	0.02	0.01	1.59	D(GDP)	-0.00	0.11	-0.00
D(INF)	-0.002	0.00	-5.55*	D(INF)	0.01	0.01	2.85*
D(LIT)	0.01	0.01	1.56	D(LIT)	0.54	0.46	1.16
D(POP)	-6.84	0.31	-22.07*	D(POP)	1.06	0.35	2.99*
D(CONS)	-0.02	0.01	-2.04*	D(CONS)	-0.14	0.09	-1.39
C	1.65	0.11	15.58*	C	-10.22	2.02	-5.07*
ECT	-0.14	0.01	-25.84*	*ECT*	-0.59	0.11	-5.27*
R-Squared			0.92	R-Squared			0.51
Adjusted R-Squared			0.86	Adjusted R-Squared			0.27
Durbin-Watson Statistic			2.08	Durbin-Watson Statistic			1.95
F-statistic			16.92*	*F*-statistic			2.08**
Diagnostic Checking		***F*-statistics**	**Prob.**			***F*-statistics**	**Prob.**
Lagrange Multiplier (LM) test		0.33	0.72			0.09	0.91
ARCH test for Heteroscedasticity		2.55	0.12			0.13	0.87
Ramsey's RESET		1.19	0.25			1.26	0.27
Jarque-Bera test for the Normality		3.32	0.19			13.04	0.00

Note: * and ** specify significant at 5 and 10 percent, respectively.

In order to confirm that the results of the study are realistic and for instance reliable, the diagnostics checking are brought-up on account of the residuals of Model-I for the entire countries. In this respect, to start with, the summaries of all of the functioned tests are given. The results show that the models reject for the possibility of serial correlation and are however homoscedastic. Nevertheless, locating for the functional form of the vary models motivates to affirm for the correct specification at most of the countries. Moreover, at large, it is confirmed that the models pass the Jarque-Bera condition of normality of the residuals.

While short run relationships between the selected variable, as posited in Model-II of Equation [35] are discussed, looking into the state of the disequilibrium in short run and hereafter reversal toward the position of the restoration of equilibrium in long run is quite instantaneous in case of Pakistan and Sri Lanka. As specified in Table 4.23, the high values at ECT prescribe that the models are exposed to have immediate congregation towards long run stability[27]. For India, coefficient of ECT shows 13 percent of the adjustment of disequilibrium towards the long run.

As cited earlier that it cannot be said that all of the FCI do not have any inherent risk. Therefore, an exposition to any disruption on the ground of macroeconomic stature cannot be avoided in case of being specific to any of the variant of FCI and its unforeseen consequences. The short run coefficients on FORDBT for Pakistan, India, and Sri Lanka do clarify that the impacts of the same on EMPL are significant but assorted at different lags. At Pakistan, on stature of first difference, the effects are negative, as found in case of long run coefficient on the same. On the other hand, tends to possess positive and significant association to EMPL on the position of last year and two year back, akin to Sri Lanka. In case of India, the coefficient of FORDBT reflects cursory negative association with EMPL.

Table 4.23

Estimation of Short Run Coefficients SAC (Model-II)

Dependant variable EMPL

Pakistan				India			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Variable**	**Coefficient**	**Standard Error**	***t*-statistic**
D(FORDBT)	-0.05	0.01	-4.90*	D(FORDBT)	-0.001	0.00	-2.34*
D(FORDBT(-1))	0.09	0.01	7.75*	D(GCF)	-0.00	0.00	-1.63
D(FORDBT(-2))	0.05	0.01	4.71*	D(GDP)	0.03	0.02	1.82**
D(GCF)	-0.06	0.04	1.52	D(INF)	-0.001	0.00	-3.38*
D(GCF(-1))	-0.20	0.05	-4.15*	D(LIT)	0.01	0.01	1.06
D(GDP)	0.05	0.10	0.47	D(POP)	-5.52	0.32	17.51**
D(GDP(-1))	0.13	0.06	2.17*	D(CONS)	-0.03	0.01	-1.92**
D(INF)	0.01	0.01	2.32*	C	1.45	0.11	12.55*
D(INF(-1))	-0.03	0.01	-4.98*	*ECT*	-0.13	0.01	-21.19*
D(LIT)	-0.21	0.12	1.85**	-	-	-	-
D(LIT(-1))	0.43	0.12	3.52*	-	-	-	-
D(POP)	-72.49	9.99	-7.26*	-	-	-	-
D(POP(-1))	131.75	18.19	7.24*	-	-	-	-
D(POP(-2))	-74.58	9.54	-7.82*	-	-	-	-
D(CONS)	0.06	0.08	0.72	-	-	-	-
C	-11.55	1.36	-8.47*	-	-	-	-
ECT	-1.00	0.10	-10.09*	-	-	-	-
R-Squared			0.84	R-Squared			0.88
Adjusted R-Squared			0.62	Adjusted R-Squared			0.82
Durbin-Watson Statistic			2.50	Durbin-Watson Statistic			1.67
F-statistic			3.75*	*F*-statistic			14.38*
Diagnostic Checking		***F*-statistics**	**Prob.**	***F*-statistics**			**Prob.**
Lagrange Multiplier (LM) test		1.99	0.18	1.48			0.25
ARCH test for Heteroscedasticity		0.71	0.40	0.25			0.62
Ramsey's RESET		0.24	0.82	0.09			0.77
Jarque-Bera test for the Normality		1.16	0.56	0.73			0.69

Sri Lanka			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**
D(FORDBT)	0.03	0.01	2.00*
D(FORDBT(-1))	0.08	0.02	3.78*
D(GCF)	0.22	0.05	4.12*
D(GCF(-1))	0.20	0.05	3.62*
D(GDP)	0.06	0.12	0.52
D(GDP(-1))	-1.16	0.33	-3.48*
D(INF)	0.05	0.01	5.61*
D(LIT)	4.40	0.91	4.83*
D(LIT(-1))	-5.82	1.68	-3.46*
D(POP)	0.49	0.44	1.10
D(CONS)	-0.97	0.19	-5.01*
D(CONS(-1))	0.65	0.20	3.18*
C	-12.44	2.31	-5.39*
ECT	-1.00	0.21	-5.62*
R-Squared			0.74
Adjusted R-Squared			0.30
Durbin-Watson Statistic			2.67
F-statistic			1.70
Diagnostic Checking		***F*-statistics**	**Prob.**
Lagrange Multiplier (LM) test		1.96	0.19
ARCH test for Heteroscedasticity		0.16	0.69
Ramsey's RESET		1.81	0.21
Jarque-Bera test for the Normality		3.64	0.16

Note: * and **specify significant at 5 and 10 percent, respectively.

It is therefore not hard to say that the impact of FORDBT is neither permanently negative nor it is well-thought positive, rather exhibits mixed blessed sequels on EMPL[28]. Being treated as more volatile than any other FCI in the range, as envisioned by Papanek (1973), Corsetti *et al.* (1999), and Chowdhry and Goyal (2000), therefore, never dismisses the possibility to disagree on the statement that FORDBT results in miscarriage of stable policies (macroeconomic) that otherwise could enable the government of the recipient country to define solid road map for the addressing of unstable patterns of employment.

Likewise, done earlier, diagnosing for the authenticity of Model-II, sensitivity analyses are carried out. In this respect, the results summarize the situation of an absence of serial correlation at each of the country, referred to LM test. Nevertheless, ARCH heteroscedasticity tests results help to incorporate the statement that; H_0 of homoscedasticity is hereby not rejected. Apart from that, hypothesized version of Ramsey RESET that investigates for the properly specified model is also not to be casted off. On account of the normal distribution of the residuals, H_0 of Jarque-Bera test is also failed to be rejected.

Moving ahead, Table 4.24 elaborates the short run relationship of the already integrated variables of Model-III, as exposed earlier in Equation [36], for Pakistan, India, and Sri Lanka. The results clarify the coefficients of ECT such as -0.92, -0.12, and that of -0.52, respectively. Such states of ECT coefficients highlight that; any shock that tends to become a reason of deviation of the prescribed model from the long run equilibrium is being swiftly corrected within a year at Pakistan. For rest of the countries, convergence towards equilibrium is though evident but at speed of 12 and 52 percent, correspondingly.

Table 4.24

Estimation of Short Run Coefficients SAC (Model-III)

Dependant variable EMPL

Pakistan				India			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Variable**	**Coefficient**	**Standard Error**	***t*-statistic**
D(FORAID)	0.03	0.01	4.33*	D(FORAID)	0.001	0.00	2.73*
D(FORAID(-1))	-0.06	0.01	-6.63*	D(GCF)	-0.004	0.00	-1.69**
D(FORAID(-2))	-0.02	0.01	-2.84*	D(GDP)	0.03	0.01	2.49*
D(GCF)	-0.05	0.04	-1.22	D(INF)	-0.002	0.00	-5.44*
D(GDP)	-0.12	0.12	-1.03	D(LIT)	0.00	0.01	0.17
D(INF)	-0.01	0.01	-1.05	D(LIT(-1))	-0.02	0.01	-2.19*
D(INF(-1))	0.01	0.01	2.60*	D(POP)	-4.11	0.60	-6.81*
D(INF(-2))	0.03	0.01	5.66*	D(CONS)	-0.03	0.01	-2.25*
D(LIT)	-0.25	0.11	-2.31*	C	1.04	0.15	6.73*
D(LIT(-1))	-0.07	0.11	-0.65	*ECT*	-0.12	0.02	-6.91*
D(LIT(-2))	-0.28	0.11	-2.50*	-	-	-	-
D(POP)	-70.74	9.78	-7.23*	-	-	-	-
D(POP(-1))	130.64	17.96	7.27*	-	-	-	-
D(POP(-2))	-71.26	9.28	-7.68*	-	-	-	-
D(CONS)	0.27	0.09	3.07*	-	-	-	-
D(CONS(-1))	-0.08	0.03	-2.55*	-	-	-	-
C	-6.60	0.75	-8.86*	-	-	-	-
ECT	-0.92	0.09	-10.19*	-	-	-	-
R-Squared			0.86	R-Squared			0.92
Adjusted R-Squared			0.64	Adjusted R-Squared			0.86
Durbin-Watson Statistic			1.93	Durbin-Watson Statistic			2.11
F-statistic			3.87*	*F*-statistic			14.83*
Diagnostic Checking		***F*-statistics**	**Prob.**	***F*-statistics**			**Prob.**
Lagrange Multiplier (LM) test		0.03	0.87	0.27			0.61
ARCH test for Heteroscedasticity		0.93	0.40	1.57			0.22
Ramsey's RESET		0.87	0.40	0.79			0.44
Jarque-Bera test for the Normality		1.31	0.52	0.57			0.75

Sri Lanka			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**
D(FORAID)	0.01	0.01	0.82
D(GCF)	0.03	0.05	0.72
D(GDP)	-0.02	0.12	-0.14
D(INF)	0.00	0.01	0.30
D(LIT)	0.21	0.52	0.40
D(POP)	1.05	0.41	2.56*
D(CONS)	-0.06	0.11	-0.55
C	-12.46	3.46	-3.60*
ECT	-0.52	0.14	-3.81*
R-Squared			0.32
Adjusted R-Squared			0.10
Durbin-Watson Statistic			1.80
F-statistic			1.47
Diagnostic Checking		***F*-statistics**	**Prob.**
Lagrange Multiplier (LM) test		0.07	0.94
ARCH test for Heteroscedasticity		0.49	0.49
Ramsey's RESET		2.41	0.11
Jarque-Bera test for the Normality		34.18	0.00

Note: * and ** specify significant at 5 and 10 percent, respectively.

The states of short run significant but assorted coefficient results of FORAID, go in collaborations with Simpasa *et al.* (2015). For Pakistan at first difference, EMPL is positive in its response to FORAID thus proves to be one of the undamaging components of FCI being positive in brought up on EMPL (Friedman, 1995; Little & Mirrlees, 1974; Juselius *et al.*, 2014). However, on one and two years lagged period, FORAID is found posing negative effects on EMPL. Somewhat negative effects of FORAID on EMPL may be treated as the take up of time and making up of the sound ground for the smooth amalgamation of future long run creation of jobs[29]. At India, the coefficient is found for minute positive impact on EMPL.

Carrying forward the tradition of the diagnostic checking on account of the residuals of the study, the summaries of the results of sensitivity analyses executed on Model-III – for all countries are given in the respective discourse. To start with, LM statistics show the absence of serial correlation. However, the H_0 of state of no heteroscedasticity, referring to ARCH test is also not rejected. Moreover, indication of lack of proper model specification is also confidently proven false, on account of Ramsey RESET. The Jarque-Bera test statistics at Pakistan and India also clarify for the fact of normal distribution of the residuals.

In order to look into the short run relationship at SAC between the variables brought up in Model-IV of Equation [37], Table 4.25 enables to see that the coefficients of ECT are significant and are indeed correctly signed i.e. negative. Findings suggest that; at Pakistan the state of fast reversal (adjustment) of either of the disordering in equilibrium in result of certain short run shock by 95 percent in a year, back in long run. Subsequent to that, in case of Bangladesh, the speed of adjustment is traced to be 43 percent whereas, at India and Sri Lanka, it is 21 and 49 percent, respectively.

Table 4.25

Estimation of Short Run Coefficients SAC (Model-IV)

Dependant variable EMPL

Pakistan				Bangladesh			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Variable**	**Coefficient**	**Standard Error**	***t*-statistic**
D(WREM)	0.03	0.01	2.91*	D(WREM)	-1.11	0.22	-5.04*
D(GCF)	-0.05	0.04	-1.15	D(GCF)	-2.39	0.50	-4.76*
D(INF)	-0.00	0.01	-0.31	D(INF)	-0.24	0.08	-2.92*
D(LIT)	-0.08	0.15	-0.56	D(LIT)	0.47	0.67	0.69
D(POP)	-85.49	16.47	-5.19*	D(POP)	2.39	2.59	0.92
D(POP(-1))	151.11	29.31	5.16*	D(CONS)	2.20	0.64	3.42*
D(POP(-2))	-79.70	14.92	-5.34*	C	-30.66	5.55	-5.53*
D(CONS)	0.14	0.52	2.69*	*ECT*	-0.43	0.08	-5.58*
C	0.27	0.04	6.44*	-	-	-	-
ECT	-0.95	0.14	-6.61*	-	-	-	-
R-Squared			0.54	R-Squared			0.70
Adjusted R-Squared			0.31	Adjusted R-Squared			0.61
Durbin-Watson Statistic			2.18	Durbin-Watson Statistic			2.87
F-statistic			2.33*	*F*-statistic			7.52*
Diagnostic Checking		***F*-statistics**	**Prob.**			***F*-statistics**	**Prob.**
Lagrange Multiplier (LM) test		1.10	0.35			1.89	0.16
ARCH test for Heteroscedasticity		2.18	0.15			1.78	0.16
Ramsey's RESET		0.87	0.40			4.00	0.00
Jarque-Bera test for the Normality		0.42	0.68			2.50	0.29

India				Sri Lanka			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Variable**	**Coefficient**	**Standard Error**	***t*-statistic**
D(WREM)	0.003	0.00	3.16*	D(WREM)	-0.01	0.38	0.36
D(GCF)	0.00	0.00	0.16	D(GCF)	0.01	0.04	0.33
D(GCF(-1))	0.01	0.00	3.56*	D(INF)	0.00	0.01	0.23
D(INF)	-0.001	0.00	-4.26*	D(LIT)	0.13	0.52	0.24
D(LIT)	0.00	0.01	-0.07	D(POP)	1.08	0.39	2.78*
D(POP)	-4.65	0.66	-7.05*	D(CONS)	-0.04	0.07	-0.51
D(CONS)	0.00	0.00	0.58	C	-12.20	3.47	-3.52*
D(CONS(-1))	-0.01	0.00	-4.02*	*ECT*	-0.49	0.14	-3.66*
C	-0.17	0.03	-6.47*	-	-	-	-
ECT	-0.21	0.03	7.23*	-	-	-	-
R-Squared			0.93	R-Squared			0.32
Adjusted R-Squared			0.86	Adjusted R-Squared			0.13
Durbin-Watson Statistic			2.66	Durbin-Watson Statistic			1.73
F-statistic			14.74*	*F*-statistic			1.73
Diagnostic Checking		***F*-statistics**	**Prob.**			***F*-statistics**	**Prob.**
Lagrange Multiplier (LM) test		2.44	0.13			0.02	0.98
ARCH test for Heteroscedasticity		0.42	0.52			0.46	0.50
Ramsey's RESET		1.05	0.31			1.63	0.11
Jarque-Bera test for the Normality		3.49	0.17			39.49	0.00

Note: * specifies significant at 5 percent.

Later to explanation of overall ECM, in viewing the coefficient of WREM, assorted findings are viewed at each of SAC. At Pakistan and India, dissimilar to Grigorian and Melkonyan (2011), Kovtun *et al.* (2014), and Mughal and Makhlouf (2013), the result shows that EMPL is positive in its response to any increase in

WREM, as found earlier by Malik *et al.* (2011). Despite of the impact, the coefficients on WREM are also found to be as significant, contrary to Bangladesh, where significant negative relationship is marked.

For the confirmation of the reliability of the results on Model-IV, the diagnostics checking brought forward at each country give a review of the detailed sensitivity analyses. At the initial, it is examined that either the model confronts with possibility of serial correlation. The result of LM test indicates the failure of violence of H_0 of no evidence of serial correlation. Despite of that, there is no issue of heteroscedasticity, after the examination of ARCH test statistics. Moreover, the Ramsey RESET statistics indicate for the fact that mostly the models are correctly specified. On the ground of the debates regarding the normality of the residuals, Jarque-Bera test enables to write that; in exclusion of Sri Lanka, the residuals do not have any state of abnormality on their distribution.

Whilst retaining the hold of short run coefficient findings, variables that are next to FCI are elaborated those have statistically significant *t*-statistic at each of the country of South Asia under discussion. Glimpses of GCF mostly explain negative and/or cursory effects on EMPL which is meant to be stated in a way that the initialization of capital oriented mechanism of investment at back of investment capital lacks behind in holding the position of job call. Thus, it is proven that the benefits of GCF are positively conferred on employment, but not in the spectacle of short run time frame. Contrary to Bangladesh at Model-I, in case of GDP, follow ups of EMPL are nevertheless positive at Model-I to Model-III for Pakistan and India. Thus with the exception of long run, allows to disprove the demonstrations of negative gestures on EMPL. As far as INF is concerned, most of the short run effect on EMPL in the case of Pakistan and Sri Lanka refers to doctrine of Phillip curve that

postulated positive state of being of rising prices and job creation[30]. The findings thus suggest that rising prices in short run withstand to swell employment. Short run coefficients rest on LIT and POP are significant in most of the models. The results at Pakistan are posited to be mostly in line with the directions of long run, i.e. negative. It is therefore argued that any rise in LIT is to have negative sway on EMPL, in both time horizons. Besides this, POP of Pakistan retains overall positive and significant effect on EMPL, however at one year lag. On the other side, LIT and POP show jumbled results in case of Bangladesh, India, and Sri Lanka. To end with, results on CONS are found significant in most of the models under the exercise. Particularly viewing the sign of short run coefficient of CONS, in case of India and Sri Lanka the results are more often than not – negative whereas, at Pakistan and Bangladesh, it is not to be hesitant in elaborating that CONS is an integral factor viewed in promoting level of employment. Thereby, the evidences temp to be sufficient enough in keeping the realization of Keynes (1936) theoretical postulates.

4.6.6 Diagnostic Test for Structural Instability

Despite of the aforementioned tests of checking of the statistical sensitivity, to ensure the mis-specification and the structural instability on accord of each of SAC during the period of estimation of Model-I, the plotting of Cumulative Sum of Recursive Residual (CUSUM) as well as Cumulative Sum of Square of Recursive Residual (CUSUMSQ), as appear in Figure 4.1 indicate for lack of such evidence at all of countries at South Asia. The test is repeated for Model-II and thereby confirms lack of mis-specified with-in bound movement during the estimation of regression at SAC. In addition to that, same results are searched out on model-III. Taking into the consideration SAC at Model-IV, similar to the previous models, the results on

CUSUM and CUSUMSQ are admitted to bear lack of either of the evidence of structural unsteadiness during the period of estimation.

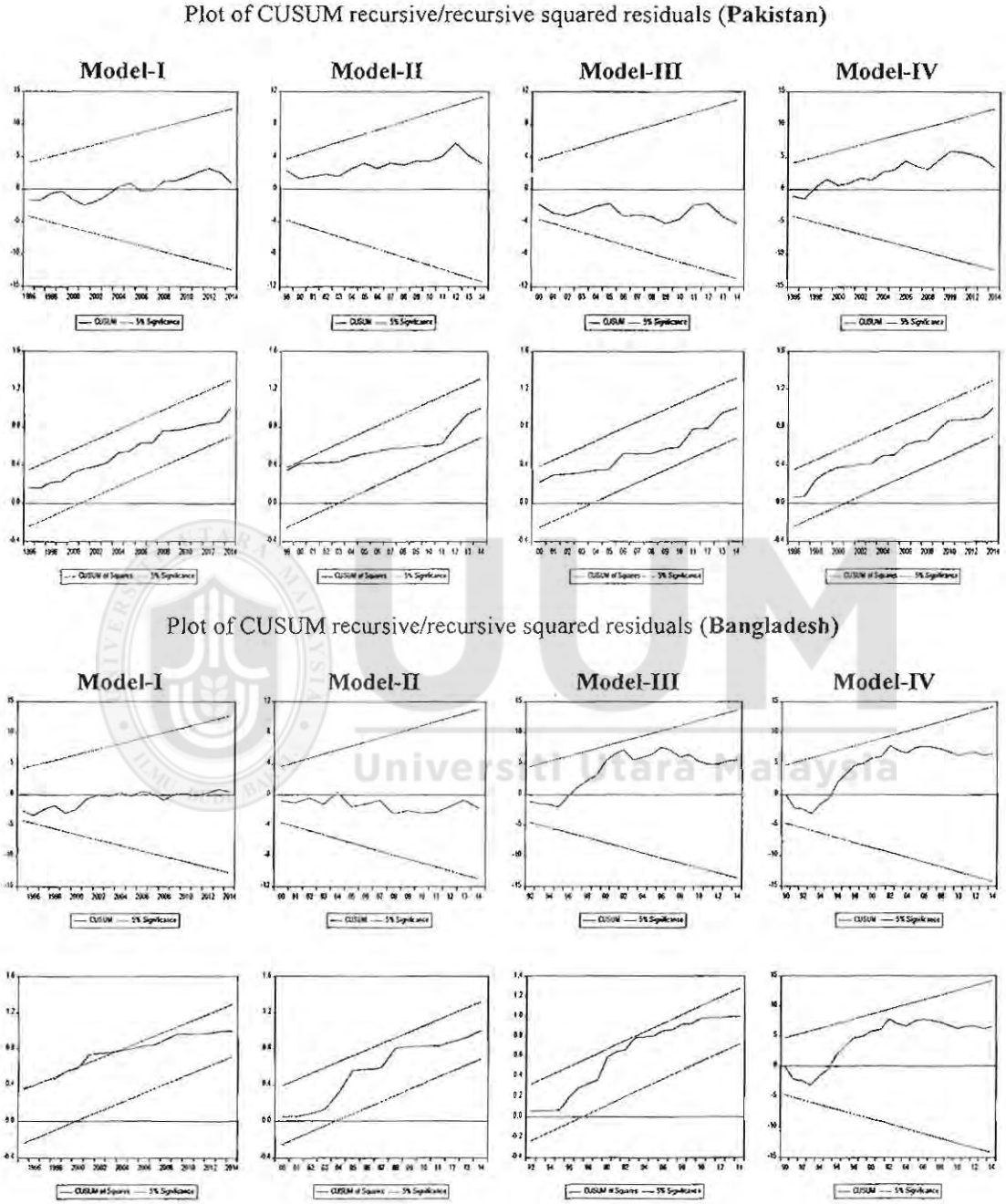
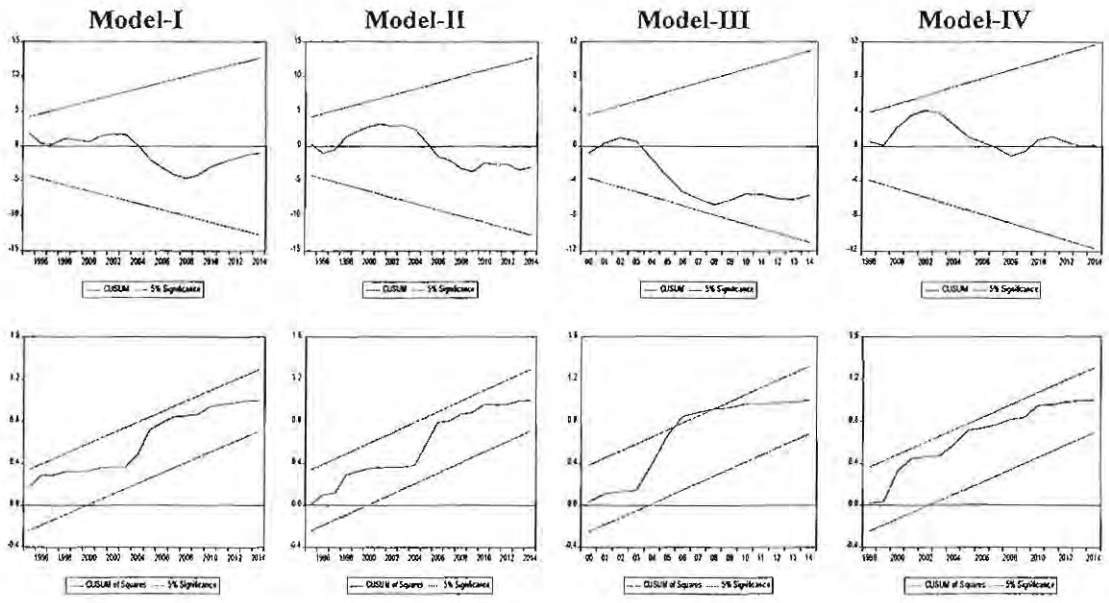


Figure 4.1
Structural Instability Tests SAC

Plot of CUSUM recursive/recursive squared residuals (**India**)



Plot of CUSUM recursive/recursive squared residuals (**Sri Lanka**)

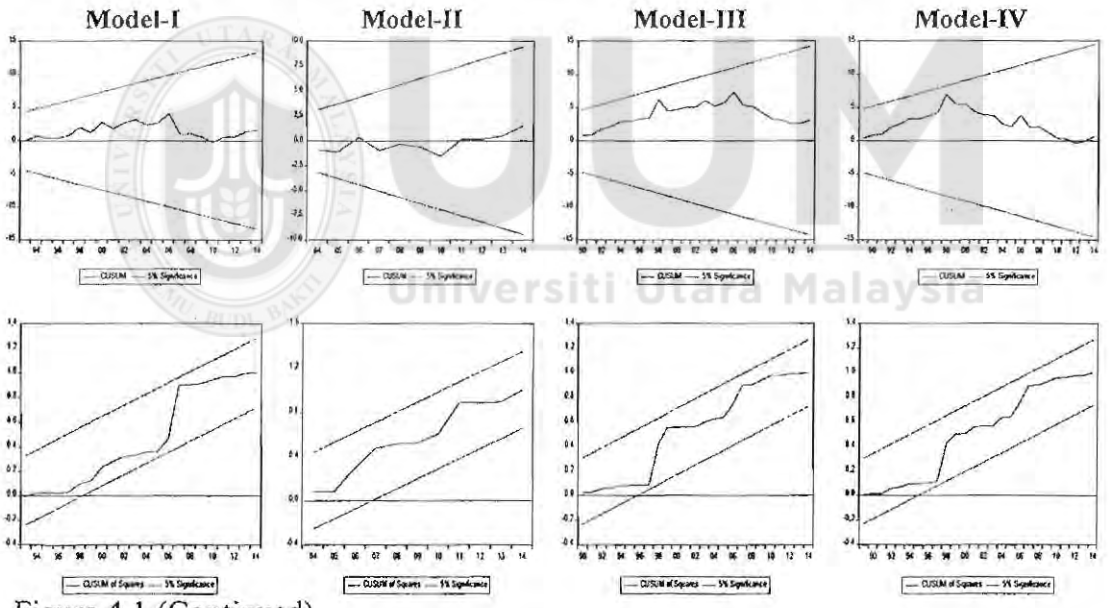


Figure 4.1 (Continued)

4.6.7 Impulse Response of Employment to Foreign Capital Inflows

Since the aim of the study is settled to be as broadened on account of having an outlook of the response of employed labor force of SAC in-against of the shock or innovation of each of FCI of the prescribed models, the IRVD supports to provide sufficient portrayal of the facts which are however adequate to comprehend on that

specific research objective[31]. In this case, over the time, response of EMPL on account of any effect that is exhibited on each of the component of FCI is traced via the plotted IRF. The IRF pulled out from unrestricted VAR that examines the sensitivity of one variables in tracing the innovation(s) on account of the other, whereby carrying out the interest built up in incorporating the verdict, after having an outlook on the slippages of EMPL in response to either of the FCI at SAC, are portrayed in Figure 4.2 to Figure 4.5 that indicate the directions of the impacts of innovations in the prescribed variables and how instantly are the such being followed by the EMPL at each country.

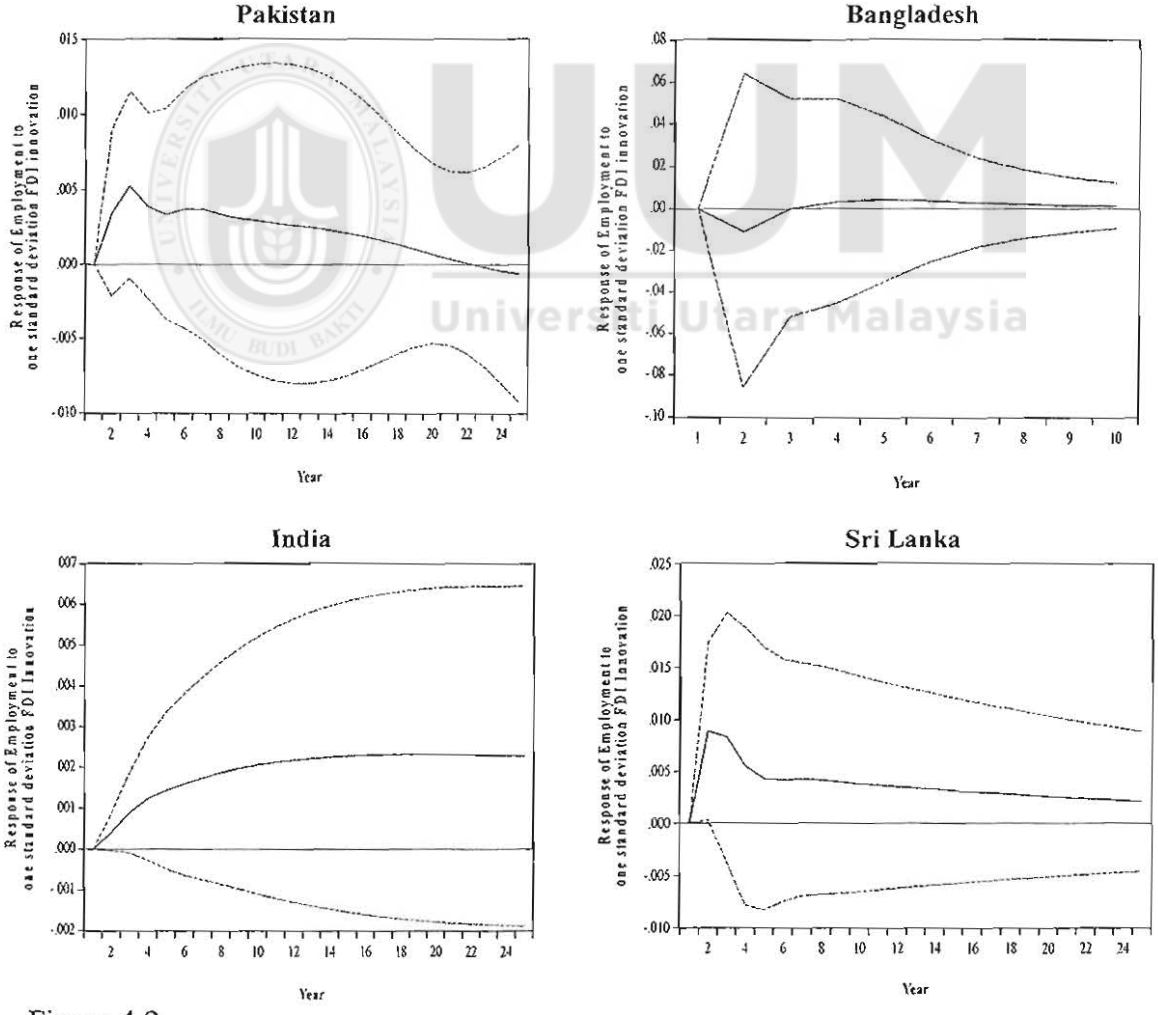


Figure 4.2
Impulse Responses of Employment to Foreign Direct Investment in SAC

Locating the spot of focus towards the response of EMPL to FDI, it is exposed that the initial follow ups of EMPL in result of fright of one standard deviation in FDI are quite sharp in escalation however are seen to start retiring off after reaching the maximum height after three years, mainly at Pakistan and Sri Lanka. It is observed that all along the endeavors, EMPL is seen tumbling down in reciprocation of either of the innovations that account on FDI and at period 23, tends to completely die out in the case of Pakistan. Similarly, at Sri Lanka also, one standard deviation FDI innovation is resultant in posing falling graph of EMPL throughout the endeavors, except that of sudden sharp mount at the prelim. In case of Bangladesh for particular, inconsequential repels of EMPL are evident at the back of FDI that signify of no positive spell-outs within the designated range. On the contrary, rejoinder of EMPL and FDI are consistently maintained, since India is taken into notice.

Shift of production patterns towards technology, since backed at FDI, are dwarf at employment, thus are not looked as a catalyst of job creation (Gali, 1999; Lerner, 1967; Yousafzai, 2014). Even Jenkins (2006) and Gali (1999) came up with the argumentation that FDI is aligned towards that of latest technologies and improved mechanizations thus seldom acts as a reason for fostering the employment. In fact whether gross or adjusted FDI is taken into the consideration, no independent or else least effects are evident (Braunstein & Epstein, 2002). The point of conclusion is that; ever since all along the endeavors dispiriting trend of movement is found on EMPL, thus enables to ink that FDI has an instant impact of boosting up EMPL, however in near future, without the exception of spelling out consistent pathetic fall out in later.

Moving ahead, the curiosity is to look into repel of EMPL to that of the recorded innovations in FORDBT at each of the SAC. Twirling en route FORDBT as

illuminated in Figure 4.3, apart from initial insignificant plunge, EMPL of Pakistan is engaged with quicker upward but temporary and trivial move that however retires off at year three. Thereafter, due to one standard deviation shock recorded on FORDBT, EMPL is discernibly gliding at consistent slower rise with retain of wider peak till 12 year onwards. After that, there are no longer holds ups of the similar prototypes of augmentation recorded on EMPL, rather starts to gradually slide down and by the year 21, completely wipes out. Point of notice is that; on accord of one standard deviation of innovation at FORDBT, the EMPL response of Bangladesh is depicted as appreciably positive after short lived fall of the same at the initial stage. Whereas, it is recorded maximum at year six that falls in the hereafter ventures. However, in case of India, the EMPL slippages in response of FORDBT innovations are gradual in rise at the beginning that are later looked as to be consistent within the specified range of years. Nevertheless, insignificant and minute state of EMPL repels are evident at Sri Lanka.

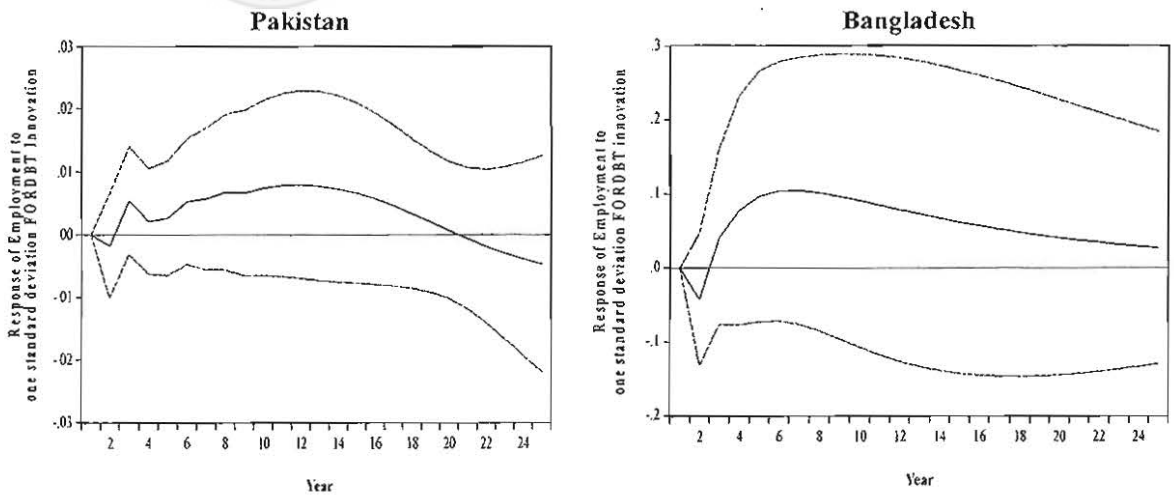


Figure 4.3
Impulse Responses of Employment to Foreign Debt in SAC

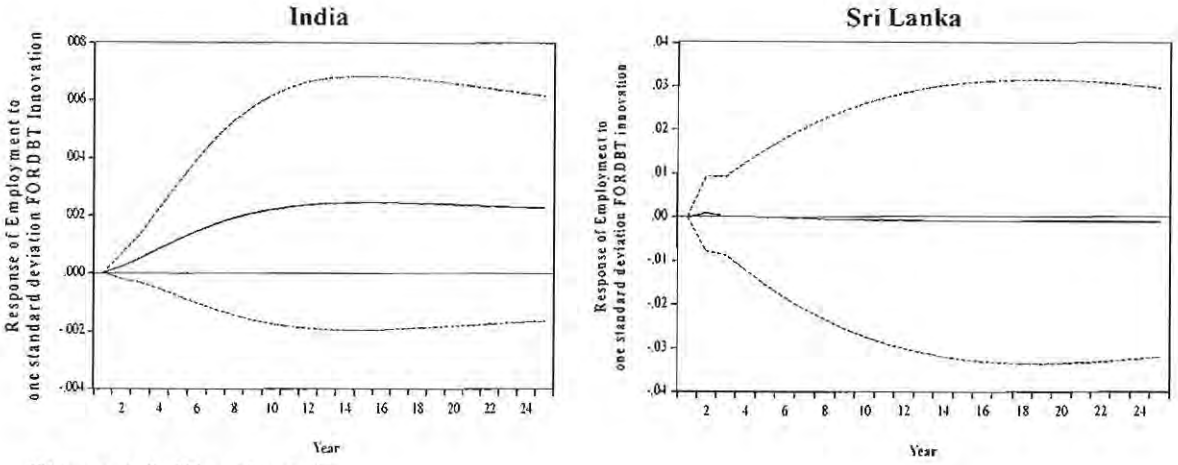


Figure 4.3 (Continued)

Given that the structural shocks recorded on the components of FCI and the feedback effect of EMPL at SAC is traced by the mean of IRF, Figure 4.4 postulates that; at Pakistan, while taking hold of one standard deviation of the innovation on FORAID, almost all along the endeavors since the prelim till year 21, EMPL response is cited below the line of margin. Focusing at the beginning, innovations in FORAID are responsible for significant drop downs in EMPL. However, after fourth year, EMPL is viewed to have slower but sure come backs in repel of tracing one standard deviation of FORAID innovation. To conclude, it is not less precise to state the factuality that positive trends on EMPL are the outcomes of FORAID that have strength to facilitate EMPL to be into positive state of being in far future. At Bangladesh, similar to the case of FDI, the EMPL response is insignificant. The circumstances in respect of India are also not apprehend-able within the specified range of time period. However, on account of Sri Lanka, although all along the route of scrutinizing EMPL responses rested at FORAID are higher than the line of margin but are not of any appreciable mark of show-ups.

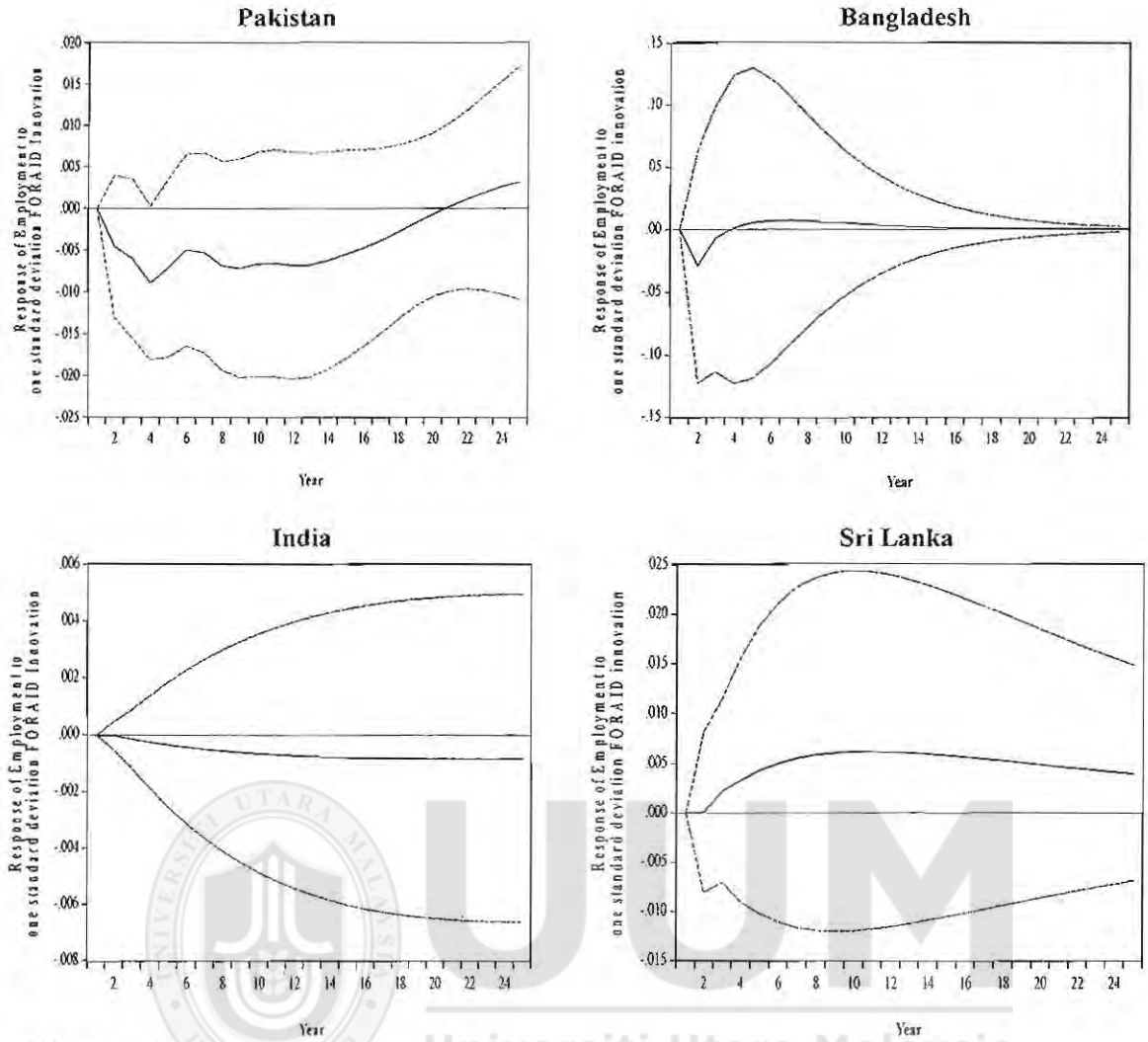


Figure 4.4
Impulse Responses of Employment to Foreign Aid in SAC

Given that matter of aspiration is FCI, the IRF is repetitively practiced to grasp the trends of EMPL at SAC that come into sight while it is detected an innovation on WREM. To ink that how much weight-full are WREM in taking hold of the position of stimulating EMPL, it can be ascertained through Figure 4.5 that; at the start, EMPL of Pakistan entitles to creep up, though less significant, till year three. Furthermore, in most of the designated range, it is not less evident to write that WREM based responses of EMPL are all the way trivial and nevertheless be split into two groups of arguments. At the initial, i.e. after year three till eight years in future, trends of gestures confirmed on EMPL are in possession of declining mode however,

afterwards those unceasing slumps are contended till period 13, later turn to slide up and at year 21, proceed beyond line of margin. Considering Bangladesh and Sri Lanka, the EMPL is reflected for the same pattern of responses i.e. though higher than line of margin however consistent and negligible. Complementarily, WREM are viewed as casting downward treads on the EMPL of India and are comparatively more eloquent in relative to rest of the countries within the analyses.

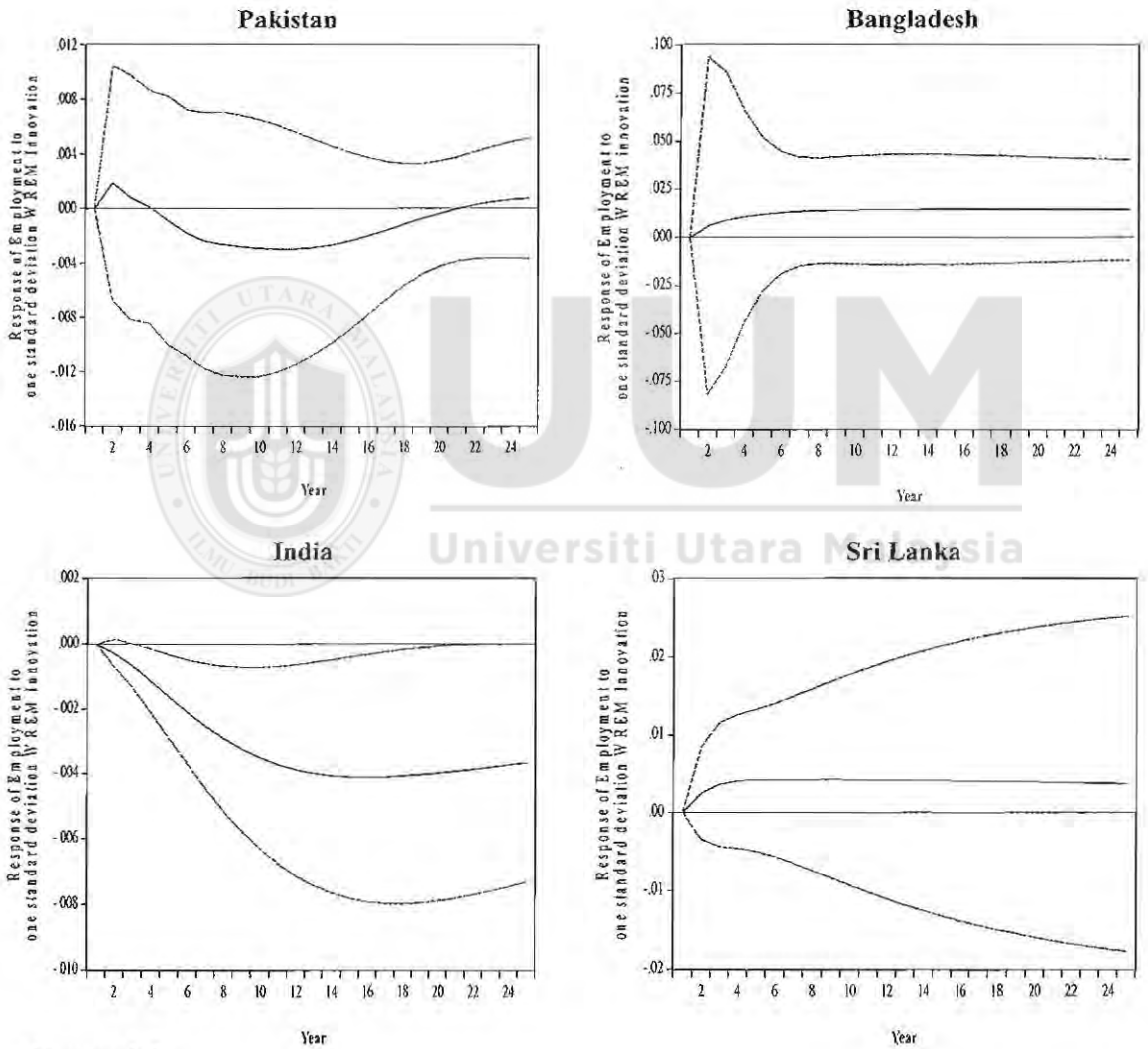


Figure 4.5
Impulse Responses of Employment to Worker Remittances in SAC

Figuring out a brief comparison on account of FCI led whereabouts of employment at Pakistan, the findings do clarify that all of the FCI, in exclusive of

FORAID, tend to be responsible in the pulling up of EMPL at the beginning. However, FDI and FORAID are such components of FCI which disembark significant fall outs on EMPL, although at the start. Whereas, the former induces EMPL for the positive turn ups however, downward trends on EMPL are compelled due to FORAID. Reliant on WREM and FORDBT, given that insignificant spell outs are recorded on EMPL, however, it is concluded that altogether components of FCI do act to compensate each other, given that the response(s) of EMPL are of primary concern. That is; throughout the specified length of analyses, descent of EMPL caused by FDI and FORDBT does have a trade-off, while looking onto postulates of FORAID and WREM on the same. To least end, slitter down of EMPL below the line of margin, on accord of FDI and FORDBT, is compensated by FORAID and WREM, nevertheless, after 20 years.

While at Bangladesh, there is not found among any of the modules of FCI as possessing significant and positive influence on EMPL. However, at FORDBT, the traces are evident of short lived mount-ups of EMPL in the beginning till period six. In respect of India, it is appealing to note that the consistent responses of EMPL are evident in result of one standard deviation of the innovations at FDI and FORDBT. However, such stagnated repels of EMPL are off-set by expressive fallouts of EMPL back at WREM. Referring to EMPL of Sri Lanka, FORDBT and WREM are found least consequential towards the EMPL. Whereby, in respect of FDI, at the beginning, and in case of FORAID – positive rejoinders of EMPL are traceable.

4.6.8 Estimation of Forecast Error Variance Decomposition

The analysis of FEVD allows drawing the conclusion(s) on movements in the sequence due to a particular variable's own shock versus the recorded shock on

another variable. The applicability of FEVD on individual SAC is for the fulfillment of an intention to look-in the component of forecast error on a variable, preferably EMPL, which originates from that of the orthogonalized innovations that are pertained into each of the explanatory component of the model, mainly variants of FCI. Thus, the aim is to reveal the exclusive importance of each category of FCI in its employment spell outs.

To facilitate in texting the results, Table 4.26 intimates the percentage of the forecast errors pertained on the employment due to one standard error innovation observed on FDI. To start with Pakistan, it seems not less evident that most of the deviations in EMPL are explained by its own innovation that begins with 100 percent at the initial and thereafter proceed with continuous fall that ends up at percentage of 33.24. Besides the spell out of the variations in translation of self, EMPL retains quite low element of innovations in result of FDI at Pakistan, India, and Bangladesh. To be brief in throwing out the elucidation, it is found that the repelling of EMPL, in reference to the innovations in FDI, are perpetual however, different from zero and throughout endeavors of decade – varying within the miniature percentage range of 1.63 to 4.18 in case of Pakistan and maximum to 8.42 and 3.84 in context of Bangladesh and India. Thus illuminates that; improvisation of EMPL on accord of FDI is too minutes that is apparent to be inconclusive. On the contrary, FDI is affecting EMPL at significant rate at Sri Lanka. It is recorded that decomposed structural shocks pertained at FDI are transpiring variations of 23.38 percent to EMPL. Throughout the designated range, FDI is found as influential to EMPL however, most of the worthy repels of EMPL are evident till fourth year.

Table 4.26
Forecast Error Variance Decomposition SAC (Model-I)

Variance Decomposition of EMPL (Pakistan)

Period	Standard Error	EMPL	FDI	GCF	GDP	INF	LIT	POP	CONS
1	0.02	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	84.21	1.63	0.10	3.93	0.91	0.01	1.22	8.00
3	0.03	72.69	3.89	1.58	3.73	0.89	0.72	2.54	13.95
4	0.04	68.11	4.18	2.27	3.20	0.70	3.37	2.77	15.40
5	0.04	64.41	4.03	2.48	3.39	0.56	7.54	2.58	15.00
6	0.04	59.98	3.98	2.52	4.19	0.48	11.77	2.45	14.62
7	0.05	55.52	3.91	2.42	5.21	0.45	15.60	2.44	14.45
8	0.05	51.22	3.75	2.23	6.28	0.47	19.26	2.51	14.27
9	0.06	47.12	3.56	2.02	7.23	0.54	22.81	2.65	14.06
10	0.06	43.34	3.39	1.82	7.91	0.70	26.11	2.88	13.85
11	0.06	39.97	3.25	1.65	8.33	0.94	29.08	3.15	13.63
12	0.07	37.05	3.13	1.51	8.54	1.25	31.67	3.46	13.39
13	0.07	34.61	3.04	1.40	8.59	1.63	33.82	3.78	13.14
14	0.07	32.67	2.98	1.32	8.55	2.04	35.52	4.07	12.86
15	0.07	31.24	2.93	1.26	8.45	2.47	36.75	4.33	12.57
16	0.07	30.33	2.90	1.22	8.32	2.87	37.52	4.54	12.29
17	0.07	29.89	2.88	1.19	8.20	3.23	37.87	4.71	12.03
18	0.08	29.90	2.87	1.17	8.07	3.51	37.84	4.81	11.83
19	0.08	30.26	2.84	1.16	7.96	3.72	37.51	4.86	11.68
20	0.08	30.89	2.81	1.14	7.86	3.84	37.00	4.86	11.60
21	0.08	31.64	2.77	1.12	7.79	3.87	36.43	4.80	11.58
22	0.08	32.37	2.71	1.10	7.76	3.83	35.93	4.70	11.61
23	0.08	32.94	2.63	1.07	7.76	3.73	35.60	4.57	11.69
24	0.08	33.25	2.55	1.04	7.81	3.61	35.53	4.43	11.78
25	0.08	33.24	2.46	1.01	7.90	3.48	35.76	4.29	11.86

Note: Residual Normality Test (Orthogonalization: Cholesky (Lutkepohl). Prob. in parenthesis. Jarque Bera *F*-statistic: 12.95 (0.68); Residual Heteroscedasticity Test: (0.37).

Variance Decomposition of EMPL (Bangladesh)

Period	Standard Error	EMPL	FDI	GCF	GDP	INF	LIT	POP	CONS
1	0.18	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.22	64.60	8.42	0.47	22.49	0.01	2.77	0.37	0.88
3	0.25	56.18	6.82	0.38	27.19	5.00	3.34	0.35	0.74
4	0.26	56.33	7.19	0.80	25.42	5.00	4.03	0.42	0.81
5	0.26	55.26	7.08	2.40	24.92	5.05	3.93	0.45	0.90
6	0.27	53.32	6.80	4.56	25.23	4.89	3.77	0.47	0.97
7	0.27	51.11	6.52	6.04	26.29	4.69	3.77	0.52	1.06
8	0.28	49.35	6.54	7.70	26.34	4.75	3.63	0.52	1.16
9	0.28	48.19	6.77	9.04	25.80	4.63	3.87	0.51	1.20
10	0.28	47.22	6.64	10.35	25.54	4.58	3.84	0.52	1.30
11	0.29	45.98	6.47	11.59	25.83	4.50	3.74	0.59	1.29
12	0.29	44.73	6.33	12.68	26.11	4.48	3.67	0.73	1.27
13	0.30	43.47	6.24	13.95	25.94	4.61	3.61	0.95	1.23
14	0.30	42.21	6.09	15.50	25.43	4.79	3.52	1.23	1.23
15	0.31	40.81	5.84	17.23	25.02	5.01	3.36	1.48	1.26
16	0.32	39.10	5.58	19.02	24.65	5.51	3.18	1.64	1.32
17	0.33	37.45	5.45	20.83	24.04	6.10	3.00	1.73	1.41
18	0.34	35.93	5.36	22.72	23.31	6.59	2.85	1.76	1.47
19	0.35	34.49	5.26	24.64	22.65	6.97	2.71	1.74	1.53
20	0.35	33.14	5.16	26.45	22.18	7.22	2.59	1.70	1.55
21	0.36	31.89	5.11	28.10	21.81	7.40	2.50	1.65	1.54
22	0.37	30.80	5.10	29.60	21.48	7.49	2.43	1.60	1.50
23	0.37	29.85	5.08	30.97	21.21	7.48	2.39	1.56	1.46
24	0.38	29.01	5.03	32.19	21.04	7.42	2.36	1.53	1.42
25	0.39	28.22	4.97	33.27	20.97	7.35	2.32	1.50	1.38

Note: Residual Normality Test (Orthogonalization: Cholesky (Lutkepohl). Prob. in parenthesis. LM test of VAR residual serial correlation; *F*-statistic: 60.47 (0.60).

Table 4.26 (Continued)

Variance Decomposition of EMPL (India)									
Period	Standard Error	EMPL	FDI	GCF	GDP	INF	LIT	POP	CONS
1	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	89.33	0.42	0.34	1.24	1.67	0.14	2.79	4.07
3	0.00	84.86	2.00	0.84	0.62	1.85	0.95	4.95	3.92
4	0.00	79.32	3.63	2.80	0.39	1.61	2.74	6.73	2.78
5	0.00	75.54	3.84	5.03	0.30	1.26	4.01	7.81	2.20
6	0.00	73.47	3.46	6.89	0.25	1.01	4.46	8.15	2.29
7	0.01	72.88	3.03	7.50	0.24	0.86	4.70	8.41	2.38
8	0.01	72.70	2.75	7.61	0.23	0.78	4.98	8.68	2.27
9	0.01	72.37	2.63	7.53	0.23	0.73	5.43	8.96	2.12
10	0.01	71.82	2.63	7.45	0.24	0.70	5.93	9.21	2.02
11	0.01	71.27	2.67	7.42	0.26	0.69	6.37	9.37	1.96
12	0.01	70.86	2.69	7.43	0.29	0.69	6.66	9.44	1.94
13	0.01	70.65	2.68	7.45	0.34	0.69	6.81	9.46	1.93
14	0.01	70.57	2.67	7.46	0.38	0.70	6.85	9.45	1.93
15	0.01	70.53	2.67	7.47	0.41	0.71	6.84	9.44	1.93
16	0.01	70.45	2.68	7.46	0.42	0.71	6.87	9.46	1.94
17	0.01	70.22	2.68	7.44	0.42	0.71	7.01	9.50	2.02
18	0.01	69.73	2.68	7.37	0.42	0.71	7.30	9.57	2.22
19	0.01	68.91	2.68	7.26	0.46	0.70	7.76	9.65	2.58
20	0.01	67.83	2.68	7.12	0.54	0.69	8.35	9.73	3.06
21	0.01	66.60	2.66	6.96	0.67	0.69	9.02	9.81	3.59
22	0.01	65.36	2.64	6.81	0.84	0.69	9.69	9.88	4.09
23	0.01	64.21	2.60	6.68	1.04	0.70	10.29	9.94	4.53
24	0.01	63.23	2.55	6.60	1.25	0.72	10.80	10.00	4.85
25	0.01	62.45	2.50	6.55	1.44	0.74	11.22	10.05	5.06

Note: Residual Normality Test (Orthogonalization: Cholesky (Lutkepohl). Prob. in parenthesis. Jarque Bera *F*-statistic: 8.07 (0.95).

Variance Decomposition of EMPL (Sri Lanka)									
Period	Standard Error	EMPL	FDI	GCF	GDP	INF	LIT	POP	CONS
1	0.02	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.04	55.56	17.92	0.13	0.66	0.83	20.24	1.92	2.73
3	0.05	36.51	22.41	0.52	0.89	0.51	34.65	1.70	2.81
4	0.06	21.19	23.38	1.42	0.84	0.40	47.05	2.02	3.71
5	0.09	11.63	19.62	1.52	0.65	0.26	60.18	1.80	4.36
6	0.13	5.59	16.31	1.12	0.44	0.12	70.75	1.21	4.45
7	0.20	2.56	13.90	0.75	0.20	0.11	77.57	0.70	4.22
8	0.32	1.25	12.05	0.58	0.09	0.15	81.48	0.37	4.03
9	0.52	0.73	11.00	0.52	0.10	0.18	83.36	0.19	3.92
10	0.85	0.54	10.57	0.50	0.14	0.21	84.07	0.10	3.87
11	1.41	0.47	10.43	0.49	0.19	0.24	84.28	0.06	3.84
12	2.32	0.45	10.37	0.50	0.22	0.25	84.34	0.04	3.83
13	3.85	0.44	10.34	0.50	0.25	0.26	84.35	0.03	3.81
14	6.36	0.44	10.34	0.51	0.26	0.27	84.34	0.03	3.80
15	10.54	0.45	10.34	0.52	0.27	0.28	84.33	0.03	3.79
16	17.44	0.45	10.34	0.52	0.28	0.28	84.32	0.02	3.79
17	28.87	0.45	10.34	0.52	0.28	0.28	84.31	0.02	3.79
18	47.80	0.45	10.34	0.52	0.28	0.28	84.31	0.02	3.79
19	79.13	0.45	10.34	0.53	0.29	0.29	84.30	0.02	3.79
20	130.99	0.45	10.34	0.53	0.29	0.29	84.30	0.02	3.79
21	216.84	0.45	10.34	0.53	0.29	0.29	84.30	0.02	3.79
22	358.96	0.45	10.34	0.53	0.29	0.29	84.30	0.02	3.79
23	594.23	0.45	10.34	0.53	0.29	0.29	84.30	0.02	3.78
24	983.71	0.45	10.34	0.53	0.29	0.29	84.30	0.02	3.78
25	1628.47	0.45	10.34	0.53	0.29	0.29	84.30	0.02	3.78

Note: Residual Normality Test (Orthogonalization: Cholesky (Lutkepohl). Prob. in parenthesis. Jarque Bera *F*-statistic: 469.22 (0.26).

The FEVD analyses results held on individual SAC for Model-II are given in Table 4.27. Findings permit to conclude the traces that rest on EMPL due to its own shock, in relative to innovations transmitted on FORDBT, are far much dominant, excluding Sri Lanka. Taking turn towards the variable of interest i.e. FORDBT and its transpositions on EMPL, in relation to one standard deviation of the unevenness, the range of reactions recorded on EMPL are varying within the percentage of 0.43 and 10.61 at Pakistan and from that of 8.18 to 19.80 in case of Bangladesh. Besides the apparent significant effectuality that is referred to FORDBT, India is also positioned for influential percentage structural shocks on EMPL that vary till 23.31 percent. Thus, except Sri Lanka, sufficient support is there to ink that; relative strength of FORDBT is noteworthy, since EMPL repels are in consideration.

Table 4.27
Forecast Error Variance Decomposition SAC (Model-II)

Variance Decomposition of EMPL (Pakistan)									
Period	Standard Error	EMPL	FORDBT	GCF	GDP	INF	LIT	POP	CONS
1	0.02	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	82.77	0.43	0.10	4.55	0.03	0.14	1.95	10.02
3	0.03	72.26	3.49	0.80	4.39	0.13	0.13	3.55	15.25
4	0.04	67.56	2.97	1.18	3.94	0.18	4.38	3.67	16.11
5	0.04	64.99	2.82	1.72	4.06	0.18	7.89	3.33	15.01
6	0.04	59.80	3.61	1.60	4.60	0.15	13.01	3.08	14.15
7	0.05	55.03	4.27	1.48	5.41	0.12	16.88	3.07	13.73
8	0.05	50.84	5.18	1.26	5.83	0.12	20.38	3.11	13.27
9	0.06	47.23	5.78	1.11	6.14	0.15	23.76	3.15	12.68
10	0.06	43.93	6.55	1.09	6.28	0.18	26.57	3.25	12.15
11	0.06	40.91	7.35	1.19	6.24	0.24	28.94	3.41	11.72
12	0.07	38.39	8.11	1.38	6.07	0.34	30.77	3.60	11.35
13	0.07	36.32	8.80	1.63	5.83	0.46	32.18	3.76	11.00
14	0.07	34.72	9.40	1.90	5.61	0.59	33.18	3.91	10.69
15	0.07	33.56	9.91	2.13	5.43	0.73	33.79	4.02	10.43
16	0.07	32.85	10.28	2.32	5.31	0.86	34.05	4.10	10.22
17	0.07	32.54	10.52	2.45	5.27	0.98	34.03	4.14	10.08
18	0.07	32.58	10.61	2.51	5.29	1.06	33.80	4.14	10.01
19	0.07	32.86	10.58	2.52	5.35	1.12	33.46	4.11	10.00
20	0.08	33.27	10.44	2.49	5.45	1.14	33.12	4.05	10.04
21	0.08	33.66	10.24	2.44	5.55	1.13	32.89	3.98	10.10
22	0.08	33.91	10.03	2.41	5.65	1.11	32.84	3.89	10.17
23	0.08	33.95	9.85	2.41	5.71	1.07	33.01	3.80	10.20
24	0.08	33.74	9.72	2.46	5.75	1.04	33.38	3.71	10.20
25	0.08	33.31	9.66	2.57	5.76	1.01	33.92	3.63	10.15

Note: Residual Normality Test (Orthogonalization: Cholesky (Lutkepohl). Prob. in parenthesis. Jarque Bera *F*-statistic: 10.13 (0.86); Residual Heteroscedasticity Test: (0.34).

Table 4.27 (Continued)

Variance Decomposition of EMPL (Bangladesh)									
Period	Standard Error	EMPL	FORDBT	GCF	GDP	INF	LIT	POP	CONS
1	0.20	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.26	71.04	8.18	0.23	16.33	0.57	0.13	1.03	2.48
3	0.27	67.40	9.16	0.80	17.06	1.05	0.25	1.18	3.10
4	0.28	67.82	9.46	0.92	16.36	0.99	0.30	1.14	3.00
5	0.29	67.04	9.66	2.15	15.81	0.94	0.49	1.08	2.83
6	0.30	66.58	9.25	3.15	15.81	0.93	0.52	1.04	2.71
7	0.30	65.38	9.50	3.53	16.05	0.92	0.73	1.11	2.78
8	0.31	63.98	10.20	4.14	16.00	0.92	0.81	1.14	2.80
9	0.31	63.30	10.21	4.88	15.90	0.95	0.81	1.15	2.80
10	0.31	62.79	10.14	5.44	15.90	0.96	0.82	1.15	2.80
11	0.31	62.41	10.28	5.63	15.91	0.96	0.83	1.16	2.83
12	0.31	61.87	10.77	5.75	15.83	0.96	0.83	1.15	2.84
13	0.31	61.42	11.16	5.93	15.73	0.96	0.82	1.14	2.83
14	0.31	61.03	11.46	6.17	15.63	0.95	0.81	1.14	2.80
15	0.32	60.60	11.91	6.35	15.50	0.94	0.80	1.13	2.76
16	0.32	59.97	12.67	6.52	15.27	0.95	0.79	1.12	2.71
17	0.32	59.27	13.49	6.77	14.96	0.99	0.77	1.11	2.64
18	0.33	58.56	14.21	7.16	14.60	1.04	0.76	1.10	2.56
19	0.33	57.76	14.95	7.63	14.23	1.12	0.74	1.08	2.48
20	0.34	56.80	15.81	8.18	13.84	1.21	0.72	1.05	2.40
21	0.35	55.73	16.69	8.82	13.46	1.27	0.69	1.02	2.31
22	0.35	54.63	17.50	9.56	13.11	1.32	0.67	0.98	2.23
23	0.36	53.51	18.25	10.34	12.80	1.34	0.65	0.95	2.16
24	0.36	52.36	19.01	11.13	12.51	1.35	0.63	0.91	2.09
25	0.37	51.18	19.80	11.91	12.25	1.35	0.60	0.88	2.03

Note: Residual Normality Test (Orthogonalization: Cholesky (Lutkepohl). Prob. in parenthesis. LM test of VAR residual serial correlation; *F*-statistic: 71.05 (0.25).

Variance Decomposition of EMPL (India)									
Period	Standard Error	EMPL	FORDBT	GCF	GDP	INF	LIT	POP	CONS
1	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	94.15	2.09	0.12	0.36	2.17	0.06	0.92	0.15
3	0.00	87.16	7.46	0.07	0.36	3.00	0.04	1.80	0.11
4	0.00	80.77	12.57	0.12	0.37	3.03	0.22	2.74	0.19
5	0.00	75.18	16.84	0.11	0.41	2.91	0.18	3.45	0.91
6	0.01	71.33	19.21	0.09	0.66	3.00	0.18	3.82	1.70
7	0.01	68.71	20.62	0.14	1.00	3.04	0.20	4.11	2.19
8	0.01	66.71	21.77	0.18	1.26	2.98	0.20	4.41	2.50
9	0.01	65.28	22.59	0.23	1.43	2.93	0.19	4.63	2.72
10	0.01	64.46	23.02	0.33	1.52	2.92	0.19	4.76	2.81
11	0.01	64.02	23.23	0.46	1.56	2.93	0.18	4.82	2.80
12	0.01	63.83	23.31	0.56	1.57	2.93	0.18	4.85	2.78
13	0.01	63.75	23.31	0.62	1.56	2.94	0.19	4.85	2.77
14	0.01	63.71	23.29	0.65	1.56	2.95	0.19	4.85	2.79
15	0.01	63.70	23.28	0.67	1.56	2.96	0.19	4.85	2.80
16	0.01	63.67	23.28	0.67	1.56	2.96	0.20	4.86	2.80
17	0.01	63.62	23.28	0.67	1.56	2.95	0.23	4.87	2.81
18	0.01	63.49	23.25	0.67	1.57	2.95	0.32	4.89	2.85
19	0.01	63.25	23.16	0.68	1.62	2.94	0.48	4.89	2.98
20	0.01	62.89	22.99	0.69	1.70	2.94	0.71	4.87	3.22
21	0.01	62.43	22.75	0.69	1.83	2.94	0.99	4.83	3.54
22	0.01	61.93	22.47	0.68	1.99	2.96	1.29	4.77	3.91
23	0.01	61.47	22.18	0.67	2.16	2.98	1.58	4.71	4.25
24	0.01	61.08	21.92	0.66	2.32	3.00	1.83	4.65	4.53
25	0.01	60.80	21.71	0.66	2.44	3.03	2.02	4.60	4.73

Note: Residual Normality Test (Orthogonalization: Cholesky (Lutkepohl). Prob. in parenthesis. Jarque Bera *F*-statistic: 2.30 (0.32).

Table 4.27 (Continued)

Variance Decomposition of EMPL (Sri Lanka)									
Period	Standard Error	EMPL	FORDBT	GCF	GDP	INF	LIT	POP	CONS
1	0.02	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	87.90	0.01	3.30	1.00	0.59	0.03	2.94	4.24
3	0.03	80.49	0.06	4.47	2.26	1.35	0.48	5.80	5.09
4	0.04	73.76	0.18	4.43	4.12	2.28	1.88	8.14	5.20
5	0.04	66.10	0.56	3.91	6.88	3.22	5.09	9.36	4.89
6	0.04	56.19	1.21	3.26	10.12	4.03	11.90	9.10	4.19
7	0.05	43.40	1.96	2.59	12.89	4.57	23.97	7.40	3.22
8	0.06	29.29	2.49	1.93	14.08	4.65	40.26	5.00	2.29
9	0.08	17.36	2.59	1.35	13.44	4.27	56.18	3.10	1.72
10	0.11	9.72	2.33	0.90	11.83	3.69	67.70	2.29	1.55
11	0.15	5.84	1.94	0.59	10.18	3.14	74.39	2.31	1.61
12	0.23	4.19	1.58	0.38	8.91	2.72	77.75	2.72	1.76
13	0.33	3.62	1.29	0.25	8.04	2.42	79.29	3.20	1.89
14	0.49	3.51	1.07	0.17	7.50	2.21	79.91	3.62	2.00
15	0.71	3.57	0.92	0.11	7.16	2.08	80.12	3.97	2.07
16	1.05	3.67	0.81	0.08	6.97	1.98	80.14	4.22	2.13
17	1.54	3.77	0.73	0.06	6.86	1.92	80.10	4.41	2.16
18	2.25	3.86	0.67	0.04	6.80	1.87	80.04	4.54	2.18
19	3.30	3.92	0.63	0.03	6.78	1.84	79.97	4.64	2.19
20	4.83	3.97	0.60	0.03	6.77	1.82	79.92	4.70	2.20
21	7.06	4.00	0.58	0.02	6.77	1.80	79.88	4.75	2.20
22	10.32	4.03	0.56	0.02	6.77	1.79	79.84	4.78	2.21
23	15.09	4.04	0.55	0.02	6.78	1.79	79.81	4.80	2.21
24	22.07	4.06	0.54	0.01	6.79	1.78	79.79	4.81	2.21
25	32.25	4.07	0.54	0.01	6.79	1.78	79.78	4.82	2.21

Note: Residual Normality Test (Orthogonalization: Cholesky (Lutkepohl). Prob. in parenthesis. LM test of VAR residual serial correlation; *F*-statistic: 61.51 (0.57).

To conclude, taking the view of future brought-ups of the variations on EMPL of each of SAC with respect to FORDBT, it would be not less true to notify that; relative importance of each of the random fluctuation(s) at the course of FORDBT are consistent in enabling EMPL to keep moving at the rising pace of absorption of shock and nevertheless undisrupted at most of the countries at South Asia.

Moving ahead, to observe the forecast error on EMPL -- for exclusive FORAID, which exists due to the orthogonalized fluctuations in each of the regressand, FEVD analyses are rerun on Model-III for each of SAC. The results shown in Table 4.28 are primarily reliant on the fact finding that encourage writing on the innovative turns of FORAID and how such slitters are followed by EMPL.

Table 4.28
Forecast Error Variance Decomposition SAC (Model-III)

Variance Decomposition of EMPL (Pakistan)

Period	Standard Error	EMPL	FORAID	GCF	GDP	INF	LIT	POP	CONS
1	0.02	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	87.74	2.92	0.06	3.96	0.41	0.03	0.37	4.51
3	0.03	79.91	6.09	1.90	3.78	0.55	0.27	0.57	6.92
4	0.04	73.13	10.97	2.92	2.98	0.49	2.66	0.45	6.40
5	0.04	69.43	12.07	2.94	2.72	0.49	6.19	0.36	5.81
6	0.04	65.08	11.35	2.94	2.98	0.41	11.05	0.33	5.87
7	0.05	60.56	10.87	3.02	3.29	0.38	15.50	0.34	6.04
8	0.05	56.51	11.19	2.89	3.74	0.37	19.10	0.33	5.87
9	0.05	52.79	11.59	2.63	4.37	0.35	22.38	0.32	5.57
10	0.06	49.27	11.73	2.38	4.92	0.38	25.64	0.34	5.35
11	0.06	46.06	11.85	2.17	5.21	0.51	28.62	0.39	5.19
12	0.06	43.27	12.14	2.00	5.32	0.71	31.09	0.45	5.02
13	0.06	40.89	12.48	1.88	5.35	0.96	33.09	0.51	4.84
14	0.07	38.94	12.73	1.79	5.31	1.26	34.71	0.58	4.68
15	0.07	37.44	12.89	1.73	5.22	1.61	35.90	0.65	4.55
16	0.07	36.39	13.00	1.68	5.13	1.99	36.65	0.72	4.43
17	0.07	35.80	13.04	1.65	5.05	2.35	37.00	0.77	4.34
18	0.07	35.63	13.01	1.63	4.97	2.65	37.02	0.82	4.28
19	0.07	35.80	12.91	1.61	4.91	2.90	36.78	0.85	4.25
20	0.07	36.21	12.77	1.59	4.86	3.07	36.38	0.88	4.24
21	0.07	36.77	12.61	1.57	4.82	3.16	35.93	0.89	4.25
22	0.07	37.34	12.43	1.56	4.79	3.18	35.55	0.89	4.27
23	0.07	37.81	12.25	1.54	4.77	3.14	35.32	0.88	4.30
24	0.07	38.09	12.08	1.52	4.76	3.07	35.30	0.87	4.32
25	0.07	38.14	11.91	1.50	4.77	2.98	35.52	0.85	4.32

Note: Residual Normality Test (Orthogonalization: Cholesky (Lutkepohl). Prob. in parenthesis. Jarque Bera *F*-statistic: 6.55 (0.98); Residual Heteroscedasticity Test: (0.34).

Variance Decomposition of EMPL (Bangladesh)

Period	Standard Error	EMPL	FORAID	GCF	GDP	INF	LIT	POP	CONS
1	0.19	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.25	66.94	3.07	1.52	23.67	0.18	0.05	2.99	1.58
3	0.27	61.78	3.75	1.31	24.83	1.28	0.07	4.45	2.54
4	0.27	63.72	3.59	1.24	23.53	1.23	0.06	4.22	2.41
5	0.28	62.23	4.69	2.42	22.99	1.26	0.10	4.01	2.30
6	0.29	60.59	4.46	4.09	23.11	1.23	0.30	3.96	2.26
7	0.29	59.74	4.53	4.49	23.22	1.20	0.64	3.94	2.24
8	0.29	59.22	4.50	4.72	23.37	1.23	0.77	3.94	2.24
9	0.29	58.94	4.49	5.07	23.32	1.23	0.77	3.94	2.24
10	0.29	58.80	4.48	5.25	23.27	1.22	0.79	3.93	2.25
11	0.30	58.77	4.50	5.28	23.25	1.25	0.79	3.93	2.24
12	0.30	58.73	4.56	5.28	23.21	1.26	0.79	3.93	2.24
13	0.30	58.67	4.59	5.30	23.19	1.26	0.79	3.95	2.24
14	0.30	58.59	4.62	5.36	23.16	1.26	0.79	3.98	2.24
15	0.30	58.50	4.67	5.42	23.11	1.28	0.79	3.99	2.24
16	0.30	58.41	4.74	5.49	23.03	1.31	0.79	4.00	2.24
17	0.30	58.30	4.77	5.62	22.93	1.36	0.79	4.00	2.23
18	0.30	58.15	4.79	5.83	22.80	1.42	0.78	3.99	2.23
19	0.30	57.96	4.81	6.10	22.69	1.48	0.78	3.97	2.21
20	0.30	57.74	4.82	6.40	22.60	1.52	0.78	3.95	2.20
21	0.30	57.50	4.82	6.71	22.53	1.54	0.78	3.93	2.19
22	0.30	57.26	4.82	7.02	22.50	1.55	0.77	3.91	2.18
23	0.30	57.01	4.82	7.30	22.49	1.55	0.77	3.89	2.17
24	0.30	56.79	4.82	7.54	22.50	1.55	0.77	3.88	2.16
25	0.30	56.58	4.82	7.75	22.52	1.54	0.76	3.87	2.16

Note: Residual Normality Test (Orthogonalization: Cholesky (Lutkepohl). Prob. in parenthesis. Jarque Bera *F*-statistic: 11.45 (0.78).

Table 4.28 (Continued)

Variance Decomposition of EMPL (India)

Period	Standard Error	EMPL	FORAID	GCF	GDP	INF	LIT	POP	CONS
1	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	94.33	1.27	0.27	0.08	1.05	0.20	1.66	1.14
3	0.00	90.64	1.39	0.68	1.25	1.78	0.15	3.47	0.64
4	0.00	86.51	1.60	1.87	2.08	1.86	0.19	5.48	0.41
5	0.00	82.96	1.89	2.97	2.27	1.69	0.19	7.39	0.64
6	0.01	80.45	2.14	3.46	2.50	1.60	0.16	8.66	1.03
7	0.01	78.96	2.43	3.54	2.76	1.57	0.14	9.52	1.07
8	0.01	77.82	2.67	3.61	2.99	1.52	0.16	10.24	1.01
9	0.01	76.76	2.94	3.73	3.19	1.45	0.24	10.76	0.94
10	0.01	75.78	3.36	3.83	3.28	1.40	0.41	11.04	0.91
11	0.01	74.98	3.80	3.89	3.29	1.36	0.60	11.12	0.94
12	0.01	74.39	4.15	3.94	3.27	1.34	0.77	11.07	1.07
13	0.01	73.95	4.37	3.98	3.24	1.32	0.90	10.98	1.26
14	0.01	73.68	4.46	4.02	3.22	1.32	0.98	10.92	1.40
15	0.01	73.57	4.47	4.06	3.22	1.32	0.99	10.90	1.46
16	0.01	73.51	4.47	4.08	3.24	1.32	0.99	10.93	1.46
17	0.01	73.36	4.53	4.06	3.27	1.32	1.04	10.95	1.48
18	0.01	72.98	4.70	4.03	3.28	1.31	1.18	10.93	1.60
19	0.01	72.31	5.00	3.99	3.26	1.29	1.43	10.85	1.87
20	0.01	71.40	5.40	3.95	3.22	1.26	1.77	10.69	2.32
21	0.01	70.34	5.84	3.95	3.15	1.22	2.16	10.47	2.87
22	0.01	69.28	6.26	4.00	3.06	1.19	2.54	10.23	3.44
23	0.01	68.33	6.63	4.10	2.98	1.15	2.87	10.00	3.94
24	0.01	67.56	6.92	4.23	2.90	1.12	3.14	9.79	4.34
25	0.01	66.96	7.14	4.40	2.84	1.09	3.33	9.62	4.62

Note: Residual Normality Test (Orthogonalization: Cholesky (Lutkepohl). Prob. in parenthesis. LM test of VAR residual serial correlation; *F*-statistic: 72.69 (0.57).

Variance Decomposition of EMPL (Sri Lanka)

Period	Standard Error	EMPL	FORAID	GCF	GDP	INF	LIT	POP	CONS
1	0.02	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.04	57.37	0.00	7.18	0.11	0.22	29.47	2.72	2.94
3	0.06	36.45	0.13	9.43	1.33	0.12	47.88	2.25	2.41
4	0.08	21.51	0.54	11.64	3.28	0.19	58.90	1.78	2.15
5	0.11	12.40	0.91	11.00	5.06	0.48	66.40	1.29	2.46
6	0.15	8.12	1.74	8.79	5.79	0.52	71.39	0.79	2.87
7	0.21	5.74	2.24	6.99	6.24	0.46	74.84	0.47	3.01
8	0.30	4.27	2.32	5.72	6.85	0.36	77.30	0.26	2.92
9	0.45	3.24	2.07	5.04	7.38	0.28	79.04	0.14	2.81
10	0.69	2.49	1.74	4.80	7.80	0.23	80.14	0.07	2.73
11	1.07	2.01	1.47	4.82	8.10	0.20	80.67	0.04	2.69
12	1.67	1.71	1.30	4.98	8.32	0.17	80.82	0.02	2.67
13	2.64	1.55	1.20	5.16	8.47	0.16	80.79	0.01	2.66
14	4.16	1.46	1.16	5.31	8.57	0.14	80.70	0.01	2.65
15	6.58	1.42	1.16	5.42	8.63	0.13	80.59	0.00	2.65
16	10.39	1.41	1.17	5.48	8.67	0.12	80.50	0.00	2.65
17	16.39	1.41	1.18	5.52	8.69	0.12	80.43	0.00	2.65
18	25.84	1.41	1.19	5.54	8.71	0.12	80.38	0.00	2.65
19	40.71	1.42	1.20	5.55	8.71	0.11	80.36	0.00	2.65
20	64.12	1.42	1.20	5.55	8.72	0.11	80.34	0.00	2.65
21	100.97	1.42	1.21	5.55	8.72	0.11	80.33	0.00	2.65
22	158.99	1.42	1.21	5.55	8.72	0.11	80.33	0.00	2.65
23	250.34	1.43	1.21	5.55	8.72	0.11	80.33	0.00	2.65
24	394.17	1.43	1.21	5.55	8.72	0.11	80.33	0.00	2.65
25	620.66	1.43	1.21	5.55	8.72	0.11	80.33	0.00	2.65

Note: Residual Normality Test (Orthogonalization: Cholesky (Lutkepohl). Prob. in parenthesis. Jarque Bera *F*-statistic: 2.05 (0.36); Residual Heteroscedasticity Test: (0.76).

To begin with the elaborations of variance decompositions, in case of Pakistan, Bangladesh, and India, self variations recorded on EMPL are although significant as found in earlier models however, as before, are apparent in falling throughout the designated range of analyses. To move on, at Pakistan, it is evident that maximum variations recorded on EMPL in against of the one standard deviation shock on FORAID are significant and are kept rising till period 17 is reached which are at high rank of stature, compared with the prior states of FCI. Within the range of period one to period 17, variations posted on EMPL in response to FORAID range within the boundary of 2.92 to 13.04 percent. It is noticeable that although all along the trace of innovation is noteworthy however, more appealing is the initial repel of EMPL that result on one standard deviation of variation on FORAID till fifth period. On the contrary, the variations of EMPL subject to FORAID are less influential at rest of the countries where maximum records of future step ahead at EMPL are 4.82, 7.14, and 2.32 percent, respectively.

To unreservedly examine the contributions of FCI in posing fraction of variation(s) on the future point of stay of EMPL, on Model-IV, FEVD is repetitively engaged into the practice for each of SAC and the outcomes are thereby published in Table 4.29. Complementarily, the aim is an exclusive evaluation of the relative importance of explanatory component of the given equation of the system i.e. WREM on EMPL. It is essential to recall that the sequences of variations that tend to exist on the dependent variable are none other than being concerned with that of its own innovations and the one which survive on each of the regressand.

Table 4.29
Forecast Error Variance Decomposition SAC (Model-IV)

Variance Decomposition of EMPL (Pakistan)

Period	Standard Error	EMPL	WREM	GCF	INF	LIT	POP	CONS
1	0.03	100.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	98.28	0.39	0.46	0.45	0.09	0.20	0.14
3	0.03	95.14	0.35	1.65	0.34	1.80	0.15	0.56
4	0.04	93.16	0.28	2.24	0.27	3.10	0.13	0.81
5	0.04	91.36	0.28	2.53	0.24	4.65	0.20	0.74
6	0.05	89.42	0.39	2.67	0.21	6.38	0.28	0.64
7	0.05	87.75	0.57	2.59	0.18	8.01	0.34	0.55
8	0.05	86.35	0.76	2.38	0.17	9.46	0.39	0.49
9	0.06	85.12	0.94	2.16	0.19	10.74	0.42	0.45
10	0.06	84.00	1.12	1.99	0.24	11.82	0.42	0.41
11	0.06	82.98	1.30	1.88	0.34	12.70	0.41	0.39
12	0.06	82.06	1.47	1.83	0.49	13.39	0.39	0.37
13	0.06	81.26	1.63	1.82	0.66	13.89	0.38	0.35
14	0.06	80.59	1.76	1.84	0.85	14.24	0.37	0.35
15	0.06	80.07	1.87	1.86	1.04	14.47	0.36	0.34
16	0.06	79.68	1.94	1.87	1.21	14.60	0.36	0.34
17	0.06	79.41	1.99	1.88	1.35	14.67	0.36	0.33
18	0.06	79.26	2.02	1.89	1.45	14.70	0.37	0.33
19	0.06	79.17	2.03	1.89	1.51	14.70	0.37	0.33
20	0.06	79.13	2.03	1.89	1.55	14.70	0.38	0.33
21	0.06	79.11	2.03	1.89	1.56	14.69	0.39	0.33
22	0.06	79.08	2.03	1.90	1.57	14.69	0.40	0.33
23	0.06	79.04	2.03	1.93	1.57	14.69	0.41	0.33
24	0.06	78.97	2.04	1.97	1.57	14.69	0.43	0.33
25	0.06	78.89	2.05	2.03	1.57	14.69	0.44	0.33

Note: Residual Normality Test (Orthogonalization: Cholesky (Lutkepohl). Prob. in parenthesis. Jarque Bera *F*-statistic: 14.26 (0.43); Residual Heteroscedasticity Test: (0.55).

Variance Decomposition of EMPL (Bangladesh)

Period	Standard Error	EMPL	WREM	GCF	INF	LIT	POP	CONS
1	0.17	100.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.19	85.89	0.01	3.75	2.10	1.63	4.73	1.89
3	0.23	60.30	19.12	7.38	2.39	3.08	4.34	3.41
4	0.24	60.35	19.13	7.09	2.36	2.91	4.08	4.07
5	0.24	60.39	18.14	6.74	2.24	3.32	3.86	5.31
6	0.25	58.84	18.09	6.56	2.48	4.84	3.90	5.29
7	0.25	56.45	18.95	6.45	2.87	5.48	4.08	5.71
8	0.25	55.10	19.13	6.39	2.97	5.75	4.08	6.59
9	0.25	54.53	18.96	6.33	3.07	5.99	4.04	7.09
10	0.26	54.16	18.83	6.30	3.14	6.17	4.03	7.37
11	0.26	54.03	18.70	6.26	3.17	6.32	4.10	7.42
12	0.26	54.02	18.62	6.23	3.16	6.40	4.16	7.40
13	0.26	54.02	18.58	6.23	3.16	6.43	4.20	7.38
14	0.26	53.91	18.55	6.25	3.20	6.45	4.23	7.41
15	0.26	53.68	18.45	6.26	3.28	6.47	4.27	7.59
16	0.26	53.37	18.32	6.25	3.41	6.46	4.32	7.88
17	0.26	52.98	18.18	6.24	3.61	6.43	4.34	8.22
18	0.26	52.55	18.04	6.23	3.84	6.40	4.33	8.60
19	0.26	52.15	17.92	6.23	4.06	6.36	4.32	8.97
20	0.26	51.82	17.84	6.21	4.24	6.32	4.30	9.27
21	0.26	51.58	17.81	6.19	4.37	6.29	4.29	9.47
22	0.27	51.44	17.80	6.18	4.45	6.27	4.27	9.58
23	0.27	51.39	17.82	6.17	4.48	6.26	4.27	9.61
24	0.27	51.38	17.84	6.16	4.48	6.26	4.27	9.60
25	0.27	51.37	17.86	6.16	4.48	6.26	4.28	9.60

Note: Residual Normality Test (Orthogonalization: Cholesky (Lutkepohl). Prob. in parenthesis. Jarque Bera *F*-statistic: 10.18 (0.75); Residual Heteroscedasticity Test: (0.31).

Table 4.29 (Continued)

Variance Decomposition of EMPL (India)								
Period	Standard Error	EMPL	WREM	GCF	INF	LIT	POP	CONS
1	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	91.13	2.62	0.18	0.00	1.08	0.26	4.73
3	0.00	81.53	4.82	0.80	0.19	1.46	0.59	10.62
4	0.00	73.37	6.37	1.53	0.44	1.47	0.87	15.95
5	0.01	66.85	7.39	2.25	0.64	1.35	1.09	20.43
6	0.01	61.67	8.03	2.97	0.76	1.21	1.27	24.10
7	0.01	57.52	8.40	3.69	0.83	1.07	1.40	27.08
8	0.01	54.17	8.60	4.44	0.86	0.97	1.50	29.47
9	0.01	51.43	8.68	5.21	0.87	0.89	1.57	31.35
10	0.01	49.18	8.68	6.02	0.87	0.84	1.61	32.80
11	0.01	47.33	8.64	6.85	0.86	0.81	1.63	33.88
12	0.01	45.83	8.57	7.68	0.85	0.81	1.63	34.63
13	0.01	44.62	8.49	8.49	0.84	0.83	1.62	35.11
14	0.01	43.67	8.41	9.27	0.83	0.86	1.61	35.35
15	0.01	42.95	8.34	9.97	0.82	0.92	1.59	35.41
16	0.01	42.45	8.27	10.58	0.82	1.00	1.57	35.32
17	0.01	42.12	8.21	11.07	0.81	1.09	1.56	35.14
18	0.01	41.95	8.15	11.42	0.81	1.20	1.56	34.92
19	0.01	41.88	8.11	11.62	0.80	1.32	1.57	34.70
20	0.01	41.88	8.07	11.67	0.80	1.44	1.60	34.54
21	0.01	41.91	8.04	11.60	0.79	1.55	1.65	34.45
22	0.01	41.93	8.01	11.42	0.78	1.66	1.72	34.48
23	0.01	41.91	7.98	11.17	0.77	1.76	1.80	34.61
24	0.01	41.84	7.95	10.88	0.77	1.84	1.89	34.84
25	0.01	41.70	7.92	10.57	0.76	1.91	1.98	35.16

Note: Residual Normality Test (Orthogonalization: Cholesky (Lutkepohl). Prob. in parenthesis. Jarque Bera *F*-statistic: 19.56 (0.14); Residual Heteroscedasticity Test: (0.15).

Variance Decomposition of EMPL (Sri Lanka)								
Period	Standard Error	EMPL	WREM	GCF	INF	LIT	POP	CONS
1	0.02	100.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	72.17	3.58	3.66	6.73	3.25	4.55	6.07
3	0.04	40.27	9.41	8.19	19.31	12.37	5.12	5.33
4	0.07	18.36	12.31	7.69	30.74	21.36	6.30	3.24
5	0.10	7.80	9.97	6.89	38.13	30.29	5.08	1.83
6	0.17	3.15	7.06	6.81	41.96	36.38	3.28	1.36
7	0.29	1.41	5.27	6.79	44.13	39.09	1.90	1.40
8	0.53	0.90	4.53	6.65	45.21	40.08	1.13	1.50
9	0.96	0.79	4.29	6.52	45.60	40.49	0.77	1.54
10	1.74	0.79	4.22	6.43	45.69	40.72	0.60	1.55
11	3.16	0.81	4.21	6.38	45.68	40.85	0.52	1.56
12	5.77	0.83	4.21	6.35	45.66	40.92	0.47	1.55
13	10.53	0.84	4.22	6.33	45.64	40.96	0.45	1.55
14	19.22	0.85	4.23	6.32	45.63	40.98	0.44	1.55
15	35.10	0.86	4.23	6.32	45.62	40.99	0.44	1.55
16	64.10	0.86	4.24	6.31	45.61	41.00	0.43	1.55
17	117.09	0.86	4.24	6.31	45.60	41.01	0.43	1.55
18	213.88	0.86	4.24	6.31	45.60	41.01	0.43	1.54
19	390.70	0.86	4.25	6.31	45.60	41.01	0.43	1.54
20	713.71	0.86	4.25	6.31	45.60	41.01	0.43	1.54
21	1303.78	0.86	4.25	6.31	45.60	41.01	0.43	1.54
22	2381.68	0.86	4.25	6.31	45.60	41.01	0.43	1.54
23	4350.78	0.86	4.25	6.31	45.60	41.01	0.43	1.54
24	7947.85	0.86	4.25	6.31	45.60	41.01	0.43	1.54
25	14518.89	0.86	4.25	6.31	45.60	41.01	0.43	1.54

Note: Residual Normality Test (Orthogonalization: Cholesky (Lutkepohl). Prob. in parenthesis. Jarque Bera *F*-statistic: 11.45 (0.78).

Instigating to elaborate, within the system as a whole, most of the variation present in EMPL of each of SAC is self reliant, except at Sri Lanka. Repetitively, all the way round the time horizon under the consideration, it is however assured that, on the ground of verifying the extent of innovations, although EMPL is obviously explained by the self however, contributions of those variations are falling since the time horizon gets ahead of. Considering Pakistan, on account of WREM, it is established that the traces of innovative brought ups on EMPL are all the way rising however are inconsequential since application of one standard unit of shock is mild to causes any substantial variation on EMPL. Whereby, in case of India and Sri Lanka, the states of variations of EMPL on accord of WREM are less petite and for instance higher to that of the one evident in case of Pakistan. It is so due to the maximum range of percentage fluctuations of 8.68 and 12.31 recorded on India and Sri Lanka. Nonetheless, at Bangladesh, the variations subject to WREM are also consequential that range within percentage of 0.01 to 19.13.

In succinct of elaborating the country wise variations evident on EMPL owing to other variables of the respective models, to begin with Pakistan, it is clarified that GDP accounts for much of the variations in EMPL, relative to GCF where the percentage variations on EMPL are however trivial. Furthermore, INF is also proven less effective in transposing variations on EMPL. However, LIT is considerably strong in its effectuality on EMPL, across all of the models. One standard deviations of shock recorded on LIT is significantly vibrant enough in varying EMPL by high above 30 percent in Model-I to Model-III however, relatively less effective in the Model-IV. To conclude, LIT is the one single variable across all of the models that is responsible for bring up of higher strength of variations in future employed labor force of Pakistan. Taking into notice POP and CONS, the later is well eloquent in

causing percentage variations in EMPL. Thus, encourage to grace what Keynes (1936) spoke outs.

Similarly at Bangladesh, GDP is mostly accounted for higher brought-up of variations at EMPL compared to that of GCF. On the opposite pattern, INF is less consequential in transpiring any meaningful variations on EMPL in entire models. The state of matter is not that different in case of LIT, POP, and CONS.

Considering the case of India, whilst it to compare GCF and GDP to have property of imitating variations on EMPL, it is found that at large GCF is more influential to EMPL. Particularly, at Model-IV, the variations recorded at the back of GCF are the highest relative to rest of the models taken into analyses. LIT is also recorded for posing the apparent strength of variations on EMPL, specifically at Model-I. INF is found least significant all across the models whereas, at someplace, POP and CONS are evident in conveying noteworthy variations to EMPL.

At Sri Lanka in brief, GCF, GDP, and INF are not found as major contributors of variations in EMPL all across, however, do have trade-offs amongst the same and even so, transpire to be expressive to EMPL except that of at Model-I. In addition to that, while to be succinct, LIT is found indicative of the maximum variations at EMPL in entire models whereas POP and CONS are found incompetent in recording significant variations on EMPL.

4.7 Estimation of Time Series Panel

This section elaborates the estimation of time series panel data on SAC. The estimation techniques as given in heretofore are worked along to get the computations on each of the component of FCI, since employed labor force of SAC is concerned. The treads of the estimation are given in the subsequent subsections.

4.7.1 Test of Cointegration

Since this study incorporates test of Kao (1999) for the exploration of cointegration among the variables that are comprised in each model, the results of cointegration are given in Table 4.30.

Table 4.30
Kao Residual Cointegration Test

Model/Equation	ADF *t*-statistic	Prob.
Model-I		
F_{EMPL}(FDI, GCF, GDP, INF, LIT, POP, CONS)	-5.37	0.00*
Model-II		
F_{EMPL} (FORDBT, GCF, GDP, INF, LIT, POP, CONS)	-5.22	0.00*
Model-III		
F_{EMPL} (FORAID, GCF, GDP, INF, LIT, POP, CONS)	-5.26	0.00*
Model-IV		
F_{EMPL} (WREM, GCF, INF, LIT, POP, CONS)	-4.96	0.00*

Note: * indicates significance at 5 percent.

Viewing the findings, it is confirmed that since all the ADF *t*-statistics are significant at 5 percent, thus the H_0 of failure of the existence of any long run relationship concerned to the entire models is therefore rejected. Nevertheless, given that *p*-values are highly significant; do render strong evidence that all the variables retain long run cointegration. To be particular in highlighting FCI and the EMPL, it is thus not untrue to declare that FDI, FORDBT, FORAID, and WREM (Model-I to Model-IV) have a strong long run association with EMPL of SAC.

4.7.2 Estimation of Long Run Coefficients

The long run coefficients are estimated by using FMOLS. As it is substantiated that there exist long run relationship of EMPL with FDI, as developed in Model-I, in sequel of that, it is to find out the nature of impact and direction of effects

of each of the regressor to that of EMPL and, especially of notice, FDI. In this regard, Table 4.31 tends to inform about estimated long run coefficient on each of the opted variable of the very model.

Table 4.31
Estimation of Long Run Coefficients (Model-I)

	Model-I			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Prob.**
FDI	-0.03	0.01	-1.78	0.08**
GCF	1.27	0.31	4.13	0.00*
GDP	-3.55	0.95	-3.74	0.00*
INF	-0.00	0.06	-0.04	0.96
LIT	-2.34	0.64	-3.67	0.00*
POP	4.88	0.99	4.94	0.00*
CONS	2.09	0.69	3.01	0.00*
R-squared	0.97			
F-statistic	17.85 (0.00);	Chi-Square	124.95 (0.00)	

Note: * and ** show significant at 5 and 10 percent, respectively.

The earlier hypothesized versions for the modules of FCI and for particular FDI was the statement that; FDI possesses a characteristic of having a significant effect on the EMPL of SAC, thus looks to be not false due to the reason that coefficient value of FDI is significant at 10 percent. However, the findings clarify that FDI and EMPL are, though related, but in inverse. That is one percent increase in FDI leads to dampen EMPL in SAC by the percentage of 0.03.

As cited by Hisarcıklılar *et al.* (2014) and Jude and Silaghi (2016), it is quite less astonishing to note that the flow of FDI is in opposite relation to EMPL. Though labor intensive nations like of SAC are somehow attractive in some of their many attributes towards the multinational companies in the possible fetch up of cheap labor however, world of today mostly tends to incorporate the production businesses to hover around most of the utilization of the mechanics instead of the labor — this trend leads to job loss (Marx & Engels, 2002). It is due to the hard-hitting criterion settled by foreign firms for self[32]. One the ground of theoretical imagery, Hill (2003) also

stated to clarify the precaution of being one-way in respect of having too much of the inflow of foreign capital in the shape of FDI. According to Akcoraoglu and Acikgoz (2011), FDI is a cause of displacement of the labor and brings along the gale of not too less of the throw outs of the labor from the production. Same thoughts were spoken earlier by Sunkel (1973) who meant to state that multinationals believe that their settlement in the host country is unsatisfied unless comprises a strength of controlling and determining the business decisions by their own. Having achieved the same position, foreign investors decide to bring along technologies that require fewer of the labor inculcation in the job field (Ernst, 2005). Not only though foreign firms are less appreciable in the facilitation of enhancing labor skills rather also enforce the host country to make them privileged in the importation of infrastructure that is to further shed-off labor force from the circle of employment (Sunkel, 1973).

On the same note, Mencinger (2003), Inekwe (2013), and Narender and Dhankar (2016) found that whenever FDI is capital intensive in nature, posts negative and/or assorted effects on employment level of the host country by the motive of less insertion of labor into the production. Nevertheless, the transnational corporations increase the import of goods – may be due to building up of strong mechanical base comparative to exports, thus generate negative spillovers. On an empirical ground of findings, the results are quite mixed that may be due to the choice of the scale of measurement of the variables in question, however, the evidences are there that expose that; FDI is either found to exhibit too less of the effect on an EMPL or in negative, elsewhere[33].

Moreover, in case of Model-II, the proposition settled earlier is that; FORDBT is significant in its affectation on the EMPL of SAC, is not denied. Reason being coefficient of FORDBT is held significant at 5 percent. Therefore, the findings

envisioned in Table 4.32 suggest that EMPL of SAC has to have a significant long run association to that of FORDBT. However, in spite of this, the nature of the impact of FORDBT is found to be negative. The result does render that one percent increase in FORDBT is responsible for reducing EMPL by 0.33 percent, in SAC altogether.

Table 4.32
Estimation of Long Run Coefficients (Model-II)

	Model-II			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Prob.**
FORDBT	-0.33	0.12	-2.79	0.00*
GCF	0.77	0.34	2.29	0.02*
GDP	1.10	1.32	0.83	0.40
INF	-0.01	0.10	-0.39	0.69
LIT	-0.57	0.16	-3.45	0.00*
POP	0.82	0.11	7.65	0.00*
CONS	-1.67	1.03	-1.62	0.11
R-squared	0.94			
F-statistic	7905.59 (0.00);	Chi-Square	55339.13 (0.00)	

Note: * shows significant at 5 percent.

FORDBT is one of the core forms of foreign capital (Obadan, 2004). Despite of this fact, it is not genuinely true that all forms of foreign capital are the well equipped entertainers of macroeconomic problems of their beneficiary. Rather nature, magnitude, mode of repayments, and targeted sector of an economy – cured by FCI, are for instance essential determinants of the forthcoming results of such inflows. Of loans, soft or hard, foreign or domestic, though enlarge the size of available capital in an economy however, mal practices, frauds, and corruption type of sociological elements tend to seize up the expected optimistic consequences of such inflows, mainly in respect of economic development[34] (Hurley, 2007). According to Eaton (1989), the positive effects of foreign capital (borrowed) are most often seen to be offset due to the excessive rise in the debt burden that comes about in result of borrowing of money at rigid market rates. Therefore, the results are indeed worst for the borrowers in respect of a rise of severe indebtedness and dependency[35]. FORDBT

is somewhat often found to be as de-stabilizer to the long run macroeconomic position of a country (Papanek, 1973; Chowdhry & Goyal, 2000). Thus, it is less shocking to note the negative connection of FORDBT and EMPL, especially after thorough view of the functioning and decision making of SAC.

Nonetheless, since core interest in Model-III is to look for employment effect of FORAID, Table 4.33 authenticates the hypothesis of the study due to the coefficient value pertained on FORAID that is significant at 5 percent. Nonetheless, it is found that FORAID is negative in brought ups on the EMPL of SAC. Findings enable to see that one percent increase in FORAID lowers EMPL by 0.44 percent.

Table 4.33
Estimation of Long Run Coefficients (Model-III)

	Model-III			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Prob.**
FORAID	-0.44	0.09	-4.45	0.00*
GCF	0.59	0.31	1.88	0.06**
GDP	-1.60	1.10	-1.46	0.14
INF	0.01	0.09	0.09	0.92
LIT	-0.21	0.18	-1.18	0.24
POP	0.94	0.10	9.08	0.00*
CONS	1.19	0.94	1.26	0.21
R-squared	0.95			
F-statistic	9490.65 (0.00);	Chi-Square	66434.58 (0.00)	

Note: * and ** show significant at 5 and 10 percent, respectively.

FORAID is treated to be as beneficial in its macroeconomic effects (Juselius *et al.*, 2014). However, spend of FORAID in misappropriate channels damages the expected benefits (Isse, 1988). In spite of this, if treated with due care and not in hast, promises to increase rate of capital accumulation that further transfers upward the graph of human capital utilization (Page & Söderbom, 2015). Economists like Lewis (1954), though connected FORAID with an economic growth but later, Dunning and Lundan (2008) perceived of it as employment-led-growth. The arguments earlier conceived by Little and Mirrlees (1974) and Friedman (1995) envisioned that

FORAID improvises the flow of investment capital that is a determinant of economic growth as well as employment[36]. Disparately, to Ouattara (2003), flow of project aid worsens public savings and nevertheless intensifies aid dependency. Thus, proper implementations of such funds are crucial to not make such inflows feckless in their efficacy. In this respect, sector-wise findings of Simpasa *et al.* (2015) evident that foreign aid is congenial to employment in public sector only. Therefore, the negative effect of FORAID on EMPL is not unusual. Nonetheless, to Papanek (1973), heavy flow of foreign capital leads to make country volatile at external front in terms of arrangement of repayments for the borrowed money. The mismanaged dispensement and allocation of FORAID, which otherwise transform to engage employment hikes, also fail to do so due to corruption or tied component of such funds that may not require too much of calls for job (Baharumshah & Thanoon, 2006).

In the sequel of earlier models, in Model-IV, the variable of interest is WREM and the results are particularized in Table 4.34. The study hypothesized the version of WREM against EMPL as; WREM possess significant impact on EMPL of SAC. The finding thereby suggests for the confirmation of the hypothesis due to the reason that long run coefficient of WREM is held at significance level of 10 percent.

Table 4.34
Estimation of Long Run Coefficients (Model-IV)

	Model-IV			
Variable	**Coefficient**	**Standard Error**	***t*-statistic**	**Prob.**
WREM	0.18	0.09	1.89	0.06**
GCF	-0.08	0.22	-0.39	0.70
INF	0.00	0.07	0.05	0.95
LIT	-1.07	0.64	-1.67	0.09**
POP	3.23	0.98	3.29	0.00*
CONS	-0.30	0.26	-1.17	0.24
R-squared	0.97			
F-statistic	13.93 (0.00);	Chi-Square	83.58 (0.00)	

Note: * and ** show significant at 5 and 10 percent, respectively.

Nevertheless, it is found that WREM are posting positive show-off on EMPL, in tracing its sequels. That is; rise of 0.18 percent in EMPL is due to taking into consideration one percent increase in WREM.

The findings are for no doubt consistent to that of the empirics of Glytsos (1993), Malik *et al.* (2011), and Amjad (1986), who authenticated that in the process of awakening employment, WREM are not of undue consideration. It is because WREM are the stimulator of capital formation and consumption level of the economy, that are altogether the utensils for raising the demand that ultimately promote employment in hereafters. The same has been a line of thinking of certain group of economists who realized that for the successful back-up of evenness in growing EMPL, it is however should be less cursory to bring up possible remedies that lead to transfer upward the level of overall consumption and investment in the economy[37]. The significance of WREM is also observed by Doorn (2004) who gave verdict that inter-nation exchange of workers enables to accelerate the pace of favorable whispers to the labor market as well as stimulates the process of development. The long run coefficient of WREM bearing positive spillovers on EMPL of SAC tends to encourage in accepting the conformist spoke up by Conway (1992) that; such inflows are beneficial not only for the recipients of the same rather also for the rest, due to the reason of favors in respect of creating variations (in-positive) in economic activity.

The results recorded on the rest of the variables used in the respective models are also worth noticing. To begin with, it is found significant and positive coefficient on GCF, expect in case of Model-IV. Same amalgamations are posited by Pissarides (2000), Kahn (1931), and Keynes (1936). GCF is formally recalled as domestic investment and is an important stimulator of job creation (Conway, 1992). In addition to that, GDP is found significant and negative to EMPL, however in Model-I.

Therefore, enables to construct that economic growth is reliant on capital intensive techniques of production in SAC. On the similar note, coefficient of LIT is found significant and negative. Although empirics like Stark and Bloom (1985), Wagner *et al.* (1989) related mixed results on LIT and employment, however, the findings of this study are well aligned to that of Malik *et al.* (2011), since measurement on variables of LIT is considered, such people can possibly be less conversant in being productive for economy unless embedded with quality of expertise and technical skills. Nevertheless, coefficients of POP are found significant and positive in entire models which encourage recording that although most of SAC bear high population growth rate however, rising POP is sufficiently adjusted in employed labor force rather than positing any undue burden on the concerned governments, instead. At the ending note, CONS is found inconclusive in most of the models, with the exception of Model-I, where the coefficient is held significant and nonetheless positive. Therefore, validates the collaborations of Keynes (1936) and Lerner (1967).

4.7.3 Estimation of Seemingly Unrelated Regression

The rationale of initialization process that trickles up the entire or either partial component of employment is too large extent reliant on ease of access towards the reliable availability of capital. For countries like in South Asia, reason being convictions of larger savings and investment gaps, most of the time, needs of capital are accomplished by the means of FCI. However, on account of various time horizons, it is already evident that FCI distinguish in their implications, given the employed labor force of the entire region is taken into a notice.

At present, in order to have no contrite of not exploring numerous types of fallouts of FCI and their sequels in line with that of particularly the employed labor

force of SAC, the components of FCI those are earlier segregated into sub categorical order are jointly tested —specifically for the reason that; whether, like in decomposed form, since exhibit significant relationship with employed labor force at Pakistan and panel data, tend to retain being un-transposed in their joint effects, however, in segregation of SAC. Thus, locating for the country-wise joint validation of FCI-led-employment into the SAC, the SUR findings that are given in Table 4.35 encourage to ink that employment effects of FCI are significant in all the selected four countries of South Asia, at 5 and 10 percent, respectively.

Table 4.35

Estimation of Seemingly Unrelated Regression

$EMPL_{t(Bangladesh)} = \beta_1 + \beta_2 FCI_t + \beta_3 GCF_t + \beta_4 GDP_t + \beta_5 INF_t + \beta_6 LIT_t + \beta_7 POP_t + \beta_8 CONS_t + \varepsilon_t$

Variable	Coefficient	Standard Error	*t*-statistic	Prob.
Intercept	2.61	1.84	1.42	0.16
FCI	0.09	0.02	4.74	0.00*
GCF	-4.81	1.46	-3.30	0.00*
GDP	6.49	2.56	2.53	0.01*
INF	-0.06	0.14	-0.46	0.65
LIT	0.81	1.00	0.81	0.42
POP	15.08	9.74	1.55	0.12
CONS	-0.03	2.20	-0.01	0.99

$EMPL_{t(India)} = \beta_9 + \beta_{10} FCI_t + \beta_{11} GCF_t + \beta_{12} GDP_t + \beta_{13} INF_t + \beta_{14} LIT_t + \beta_{15} POP_t + \beta_{16} CONS_t + \varepsilon_t$

Variable	Coefficient	Standard Error	*t*-statistic	Prob.
Intercept	14.03	0.19	73.77	0.00*
FCI	-0.003	0.00	-1.68	0.10**
GCF	-0.01	0.02	-0.56	0.58
GDP	0.16	0.08	1.90	0.06**
INF	-0.01	0.00	-1.98	0.05*
LIT	-0.23	0.05	-4.18	0.00*
POP	-33.30	1.06	-31.33	0.00*
CONS	-0.13	0.07	-1.80	0.08**

$EMPL_{t(SriLanka)} = \beta_{17} + \beta_{18} FCI_t + \beta_{19} GCF_t + \beta_{20} GDP_t + \beta_{21} INF_t + \beta_{22} LIT_t + \beta_{23} POP_t + \beta_{24} CONS_t + \varepsilon_t$

Variable	Coefficient	Standard Error	*t*-statistic	Prob.
Intercept	3.82	0.52	7.41	0.00*
FCI	0.06	0.01	9.90	0.00*
GCF	0.20	0.10	2.05	0.04*
GDP	-0.52	0.32	-1.64	0.10**
INF	0.01	0.01	0.50	0.62
LIT	-4.23	1.47	-2.89	0.00*
POP	-1.30	1.30	-1.00	0.32
CONS	-0.24	0.25	-0.98	0.33

Table 4.35 (Continued)

$$EMPL_{t(Pakistan)} = \beta_{25} + \beta_{26}FCI_t + \beta_{27}GCF_t + \beta_{28}GDP_t + \beta_{29}INF_t + \beta_{30}LIT_t + \beta_{31}POP_t + \beta_{32}CONS_t + \varepsilon_t$$

Variable	Coefficient	Standard Error	*t*-statistic	Prob.
Intercept	7.66	0.97	7.90	0.00*
FCI	0.04	0.01	3.80	0.00*
GCF	-0.02	0.17	-0.13	0.90
GDP	0.16	0.41	0.39	0.69
INF	-0.05	0.03	-1.88	0.06**
LIT	-0.96	0.46	-2.11	0.04*
POP	-10.68	2.04	-5.23	0.00*
CONS	-0.07	0.28	-0.26	0.79

Note: * and ** exacerbate significant *t*-statistic, respectively at 5 & 10 percent.

1. Computed statistics of R^2 from Model-I to Model-IV are 0.47, 0.99, 0.88, & 0.91.
2. Wald test for system of equations has chi-square value of 7195.09 (0.00) i.e. significant at 5 percent thereby rejects H_0 which is written as, H_0: C(1) = C(9) = C(17) = C(25), C(2) = C(10) = C(18) = C(26).
3. System residual normality test has H_0: Residuals are multivariate normal. In this respect, chi-squared values with probabilities in parenthesis for Skewness, Kurtosis, and Jarque-Bera tests are: 2.92 (0.57), 5.58 (0.23), & 8.50 (0.39).

To be further elaborative on the results, more to the nature of impacts, it is confirmed that the directions of effects of FCI are also positive across the countries. However, of India, despite of the fact that the coefficient value is negative i.e. -0.003, it appears to be less successful in the transformation of any concrete and noteworthy downward change on employed labor force, since components of FCI are viewed-in as being integrated. On the contrary, the recorded coefficient of FCI on account of Bangladesh spells out of 0.09 percent of rise in employed labor force at the back of rise of one percent in FCI. Furthermore, in Sri Lanka and Pakistan, the uplifts of 0.06 and 0.04 percent in employed labor force are located to be secured by one percent increase in FCI.

Therefore, in order to be conclusive, it is clarified that although FCI are quite sensitive in terms of their flow as well as of advertising the effects on host country's employed labor force, for particular, however, it is honored that since flow of foreign capital is angled without any dissimilarity of hopping from one country to the next, in South Asian region – tends to hold positive fallouts on employed labor force. In this respect, to further add, Hanson (2001) wrote that much of the beneficent labor force is

to be the one that is a composite of above average expertise, given that FCI are viewed. Same notes of findings are published by Haddad and Harrison (1993) who argued that; when capital flows towards particular economy, much of the skillful labor is required, given that capital investments are more intensive and profitable in respect of intellectual property. Linking and adjoining such worthy commendation to the highest recorded FDI inflows to India relative to rest of the variants of FCI that envoy for the tackling of businesses with skilled labor force, apart from that of the one with less of the expertise – it is therefore justifiable that although the impact of altogether FCI is significant however, poling apart to rest of the countries across the system of equation – the collapse of employed labor force is minute.

Interestingly, it is earlier noted that the in-component forms of effects of FCI on employed labor force of SAC panel are all negative except that of WREM. However, the disintegrations of SAC while tested for the combined effects of FCI on employed labor force are positive. Therefore, it can be interpreted that; given the needs of capital are fulfilled in SAC, the channels previously thought out and perceived by the theorists are amicably traceable which were earlier conceptualized. Nevertheless, less precise to the particular form of FCI and its track of brought about, especially when employed labor force of SAC, in combined, is the source of interest.

In general, taking note of further results conferred on the other regressors of the same version, however on each of the country in-separate, it is detected that all of the variables are grouped to be significant at collective spectrum regardless of the state of being on each country case. To begin with, GCF and GDP are followed by significant but varied effects except that of in case of Pakistan. Impacts of INF, where ever statistically significant, are found negative, akin to former findings. Next to being similar on account of records for the nature of effects on employed labor force,

LIT, as evident earlier is negatively affecting employed labor force in the selected countries of interest. However, POP and CONS are found as unconstructive to employed labor force, contrary to the earlier findings on account of panel data.

4.8 Analyses Results of Causality

This section enables to exclusively gather around the facts of causality relationship between the variants of FCI and EMPL at SAC on either model in time series and panel analyses. In this regard, pair-wise Granger (1969) test assists to conclude the interdependency and deterministic ability among the variable in a specific model. The interpretations of computed results are given henceforth.

4.8.1 Analysis Results of Causality for Time Series SAC

The results of pair-wise Granger causality test are given in Table 4.36. At the same time exclusive concern is to check for the causal relationship between EMPL and variants of FCI on each of the selected country at South Asia. Pertaining to Model-I, it is noted that; H_0 of no run of causality between EMPL and FDI is rejected at 5 and 10 percent level of significance. However, it is just unilateral at Pakistan i.e. the causality is running from EMPL to FDI without an exception of any evidence of reverse causality from FDI to EMPL. On the contrary, bidirectional causality is evident in case of Bangladesh, India, and Sri Lanka.

Although FDI is one of the important determinants of EMPL of Pakistan under the fraternity of FCI, however fails to have any reserve causality between its own and EMPL, similar to Inekwe (2013) and Bekhet and Mugableh (2016). To Rizvi and Nishat (2009) and Jayaraman and Singh (2007) also FDI has no such vibrant role in employment creation. Whereby, on the opposite, since two ways causal associations

are found on rest of the countries, thus an economic point of view to be enforced here may be an argument that; for the sake of EMPL creation, FDI is a factor that employment concerns could be reconciled-with for determining EMPL.

Having glance of Granger causality of FORDBT and EMPL, as posited in Model-II, the factuality cannot be omitted on the expectations that the EMPL is however does determine by FORDBT. The results of causality ascertain that; the H_0 of no causality is rejected on both EMPL and FORDBT at 5 and 10 percent significance level. Thus, encourage to incorporate the one and two way causal relationship of the two within the concerned countries at South Asia.

Table 4.36
Results of Pair-wise Granger Causality Test Time Series SAC

Model-I				
		***F*-statistic**		
Null Hypothesis:	**Pakistan**	**Bangladesh**	**India**	**Sri Lanka**
FDI does not Granger Cause EMPL	0.25	9.18*	5.70*	2.87**
EMPL does not Granger Cause FDI	13.26*	35.24*	12.25*	7.64*
GCF does not Granger Cause EMPL	0.89	4.86*	24.26*	0.05
EMPL does not Granger Cause GCF	2.79**	0.55	3.20*	1.23
GDP does not Granger Cause EMPL	0.43	4.59*	27.72*	0.27
EMPL does not Granger Cause GDP	5.30*	2.34**	3.18*	0.36
INF does not Granger Cause EMPL	0.15	1.16	1.71	0.05
EMPL does not Granger Cause INF	0.23	0.71	0.30	1.43
LIT does not Granger Cause EMPL	1.69	3.89*	0.22	2.08
EMPL does not Granger Cause LIT	2.56	0.73	7.60*	0.67
POP does not Granger Cause EMPL	0.91	17.43*	15.42*	6.81*
EMPL does not Granger Cause POP	5.33*	0.62	91.71*	0.08
CONS does not Granger Cause EMPL	0.83	3.85*	33.16*	0.16
EMPL does not Granger Cause CONS	6.78*	1.23	2.99**	0.24
Model-II				
		***F*-statistic**		
Null Hypothesis	**Pakistan**	**Bangladesh**	**India**	**Sri Lanka**
FORDBT does not Granger Cause EMPL	2.96*	5.26*	2.26	51.63**
EMPL does not Granger Cause FORDBT	4.15*	0.66	7.26*	7.50
GCF does not Granger Cause EMPL	0.32	4.86*	24.26*	40.38
EMPL does not Granger Cause GCF	4.41*	0.55	3.20**	2.81
GDP does not Granger Cause EMPL	0.48	4.59*	27.72*	43.97*
EMPL does not Granger Cause GDP	4.17*	2.34**	3.18**	4.91
INF does not Granger Cause EMPL	0.39	1.16	1.71	0.37
EMPL does not Granger Cause INF	0.60	0.71	0.30	19.05
LIT does not Granger Cause EMPL	5.72*	3.90*	0.22	21.53
EMPL does not Granger Cause LIT	0.89	0.73	7.60*	8.42
POP does not Granger Cause EMPL	2.76*	17.43*	15.42*	4.17
EMPL does not Granger Cause POP	1.34	0.62	91.71*	2.38
CONS does not Granger Cause EMPL	0.60	3.85*	33.16*	1.19
EMPL does not Granger Cause CONS	6.01*	1.23	2.99**	0.41

Table 4.36 (Continued)

Model-III				
	F-statistic			
Null Hypothesis	**Pakistan**	**Bangladesh**	**India**	**Sri Lanka**
FORAID does not Granger Cause EMPL	0.49	3.18*	1.48	0.46
EMPL does not Granger Cause FORAID	4.40*	4.39*	0.60	2.25**
GCF does not Granger Cause EMPL	0.68	1.83	24.26*	1.45
EMPL does not Granger Cause GCF	4.07*	0.72	3.20**	3.93*
GDP does not Granger Cause EMPL	0.70	2.71**	27.72*	0.37
EMPL does not Granger Cause GDP	6.56*	2.45**	3.18**	2.79*
INF does not Granger Cause EMPL	0.73	0.72	1.71	0.24
EMPL does not Granger Cause INF	0.36	1.34	0.30	1.45
LIT does not Granger Cause EMPL	1.99	1.95	0.22	1.45
EMPL does not Granger Cause LIT	2.13**	0.67	7.60*	2.25**
POP does not Granger Cause EMPL	2.84*	2.48**	15.42*	1.26
EMPL does not Granger Cause POP	2.28**	1.29	91.71*	1.22
CONS does not Granger Cause EMPL	0.85	2.22**	33.16*	0.33
EMPL does not Granger Cause CONS	7.97*	1.32	2.99**	2.36**
Model-IV				
	F-statistic			
Null Hypothesis	**Pakistan**	**Bangladesh**	**India**	**Sri Lanka**
WREM does not Granger Cause EMPL	2.22**	7.61*	4.17*	2.34**
EMPL does not Granger Cause WREM	3.14*	3.05*	12.37*	0.23
GCF does not Granger Cause EMPL	1.13	4.86*	24.26*	1.06
EMPL does not Granger Cause GCF	3.87*	0.55	3.20**	2.98*
INF does not Granger Cause EMPL	0.52	1.16	1.71	0.79
EMPL does not Granger Cause INF	0.62	0.71	0.30	1.42
LIT does not Granger Cause EMPL	3.81*	3.90*	0.22	1.04
EMPL does not Granger Cause LIT	0.64	0.73	7.60*	2.54**
POP does not Granger Cause EMPL	1.57	17.43*	15.42*	1.32
EMPL does not Granger Cause POP	0.75	0.62	91.71*	2.08
CONS does not Granger Cause EMPL	1.11	3.85*	33.16*	0.20
EMPL does not Granger Cause CONS	5.73*	1.23	2.99**	2.34**

Note: * and ** demonstrate rejection of H_0 at 5 and 10 percent level of significance, respectively.

Testing the causality relationship on Model-III, the findings substantiate that EMPL and FORAID do have traces of causality relationship between one another. However, the paths of causality are assorted. For instance, at Pakistan and Sri Lanka, unidirectional causality is evident whereas two way causal relationships are confirmed at Bangladesh. In respect of India, no causal associations are viewed. In an economic interpretation, it can be stated that; although FORAID, as the member of vital FCI, is without any exception required to rescue the mission of job creation. However, because of witnessing no and/or unidirectional causality, FORAID is found left

behind while to be stated as a factor that is to determine EMPL — on ground of causality for each of the preferred country at South Asia.

To end with, the gestures of EMPL and WREM, as assemble in Model IV, are examined for pair-wise Granger causality test. The results enable to state that H_0 of no causality relationship between WREM and EMPL (bidirectional) is rejected at 5 and 10 percent significance level at Pakistan, Bangladesh, and India. Thus, confirms for the fact that WREM are an important component amongst the row of FCI that seldom displace away from exhibiting the role in determining the EMPL. Ever since at Sri Lanka also causality knot-ups are evident therefore tend to support the earlier cited argument that; WREM as component of FCI do add to the rate of capital formation by mounting consumption expenditure, thereby reduce undue unemployment pressures (Conway, 1992; Amjad, 1986; Bakht & Mahmood, 1989).

Causality tie ups are found on account of EMPL and other variables too. For Pakistan, to be brief enough in throwing a precise explanation on the results, it is emerged that GCF and GDP possess the states of one way causal relationship with EMPL. Where else, unlike of INF, LIT is also found as holding up running of one way causality relationship to EMPL thus is found to be in line with POP — though exhibit bidirectional causality in Model-III, while EMPL is under the consideration. In addition to that, CONS and EMPL also keep junctures of all the way causality relationship, however in unidirectional exposure.

In case of Bangladesh, GCF and GDP are also accounted for one or either two way causality. However, no causality relationship is found on account of INF at entire models. One way causality is found among LIT and EMPL, except that of at Model-III. To further notice, POP and CONS are evident for unidirectional causality within the entire analyses.

In respect of India, GCF and GDP are ascertained for bidirectional causality in entire models, wherever included. Nevertheless, no causality is found between EMPL and INF, unlike LIT. Similarly, POP and CONS are located for the bidirectional causality with EMPL within the entire models.

Furthermore, on account of Sri Lanka casual associations are rarely found at most of the series of the models. However, except that of INF, all the opted variables are apparent for causality rejoinders with EMPL across the models analyzed.

4.8.2 Analysis Results of Causality for Time Series Panel

To further continue, the results on pair-wise Granger causality are given in Table 4.37. Pertaining Model-I, the fact finding suggests to incorporating a statement that FDI and EMPL are bilaterally causal to one another, since H_0 of no causality is rejected at 5 percent. Therefore confirming that; traces of interdependence of calls for the jobs and FDI in context of determining the future values of one another is harder to be rejected.

Although earlier FDI is found as posting negative effects on EMPL of SAC, however it is an important component of FCI that alters the EMPL[38]. Findings are in contrast to Jayaraman and Singh (2007), Akcoraoglu and Acikgoz (2011), Inekwe (2013), and Bekhet and Mugableh (2016) who failed to succeed in coming along bilateral causal relationship of FDI and formal/sector-wise employment.

In next of FDI, the extracted information on account of causality analyses on FORDBT and EMPL encourages to in-text the validity of one way causality amongst the two.

Table 4.37

Results of Pair-wise Granger Causality Test Time Series Panel

Model-I			
Null Hypothesis:	***F*-statistic**	**Prob.**	**Conclusion**
FDI does not Granger Cause EMPL	2.66	0.01*	Bidirectional
EMPL does not Granger Cause FDI	3.89	0.00*	
GCF does not Granger Cause EMPL	1.09	0.37	No Causality
EMPL does not Granger Cause GCF	0.36	0.92	
GDP does not Granger Cause EMPL	1.18	0.32	No Causality
EMPL does not Granger Cause GDP	1.56	0.16	
INF does not Granger Cause EMPL	0.53	0.81	No Causality
EMPL does not Granger Cause INF	0.96	0.47	
LIT does not Granger Cause EMPL	1.18	0.32	Unidirectional
EMPL does not Granger Cause LIT	1.80	0.09**	
POP does not Granger Cause EMPL	10.00	0.00*	Unidirectional
EMPL does not Granger Cause POP	0.33	0.94	
CONS does not Granger Cause EMPL	1.29	0.26	Unidirectional
EMPL does not Granger Cause CONS	1.81	0.09**	

Table 4.34 (Continued)

Model-II			
Null Hypothesis:	***F*-statistic**	**Prob.**	**Conclusion**
FORDBT does not Granger Cause EMPL	0.00	0.96	Unidirectional
EMPL does not Granger Cause FORDBT	6.83	0.01*	
GCF does not Granger Cause EMPL	0.05	0.83	No Causality
EMPL does not Granger Cause GCF	0.00	0.99	
GDP does not Granger Cause EMPL	0.65	0.42	No Causality
EMPL does not Granger Cause GDP	2.07	0.15	
INF does not Granger Cause EMPL	0.16	0.69	No Causality
EMPL does not Granger Cause INF	0.85	0.36	
LIT does not Granger Cause EMPL	5.59	0.02*	Unidirectional
EMPL does not Granger Cause LIT	0.65	0.42	
POP does not Granger Cause EMPL	36.89	0.00*	Bidirectional
EMPL does not Granger Cause POP	21.12	0.00*	
CONS does not Granger Cause EMPL	1.04	0.31	Unidirectional
EMPL does not Granger Cause CONS	3.86	0.05*	
Model-III			
Null Hypothesis:	***F*-statistic**	**Prob.**	**Conclusion**
FORAID does not Granger Cause EMPL	2.07	0.15	Unidirectional
EMPL does not Granger Cause FORAID	11.86	0.01*	
GCF does not Granger Cause EMPL	0.05	0.83	No Causality
EMPL does not Granger Cause GCF	0.00	0.99	
GDP does not Granger Cause EMPL	0.65	0.42	No Causality
EMPL does not Granger Cause GDP	2.07	0.15	
INF does not Granger Cause EMPL	0.16	0.69	No Causality
EMPL does not Granger Cause INF	0.85	0.36	
LIT does not Granger Cause EMPL	5.59	0.02*	Unidirectional
EMPL does not Granger Cause LIT	0.65	0.42	
POP does not Granger Cause EMPL	36.89	0.00*	Bidirectional
EMPL does not Granger Cause POP	21.12	0.00*	
CONS does not Granger Cause EMPL	1.05	0.31	Unidirectional
EMPL does not Granger Cause CONS	3.86	0.05*	

Table 4.37 (Continued)

Model-IV			
Null Hypothesis:	***F*-statistic**	**Prob.**	**Conclusion**
WREM does not Granger Cause EMPL	1.81	0.09**	Unidirectional
EMPL does not Granger Cause WREM	0.70	0.69	
GCF does not Granger Cause EMPL	1.30	0.25	Unidirectional
EMPL does not Granger Cause GCF	1.73	0.10**	
INF does not Granger Cause EMPL	0.41	0.91	No Causality
EMPL does not Granger Cause INF	1.35	0.23	
LIT does not Granger Cause EMPL	0.93	0.49	No Causality
EMPL does not Granger Cause LIT	1.57	0.14	
POP does not Granger Cause EMPL	7.37	0.00*	Unidirectional
EMPL does not Granger Cause POP	0.59	0.78	
CONS does not Granger Cause EMPL	1.27	0.27	Unidirectional
EMPL does not Granger Cause CONS	2.32	0.03*	

Note: * and ** demonstrate rejection of H_0 at 5 and 10 percent level of significance, respectively.

In an interpretation of this state of causal gestures among the two, it is not less precise to quote that; for the sake of the subversion of depressed EMPL, attempt may be a probe towards fetch of the component of FCI that is FORDBT, though lack of reverse causality is found. In this particular case, the findings are discordant to the one fetched out earlier in case of time series Pakistan.

Taking into account the considerations that either FORAID, as exposed in Model-III, is competent enough of having causal relationship with EMPL, the evidence gathered on *F*-statistics of pair-wise Granger causality test encourages not rejecting the premise of unidirectional causality at 5 percent level of significance. Granger (1969) acclaimed that the rejection and or elsewhere of H_0 reliant on computed *F*-statistics retains power to be explained under the exposition of forecasting future stand point of one variable because of the involvement of the other. Therefore, keeping not narrow the interpretation of the result, it may be stated that SAC altogether need to have sufficient amount of FORAID to effectively tackle issue of EMPL. Total amount of engaged labor force though not caused by FORAID rather is causing FORAID thus ensures the need for FORAID to maintain reasonable pace of further job creation.

On the finishing note, Model-IV is auditioned. It is found that H_0 of no run of causality between WREM and EMPL of SAC is significantly rejected at 10 percent. It means that as perceived in theoretical perception, WREM are helpful in coping up the needful of employment creation, if flow-in to significant extent. One of the contributions in developing the channel on which WREM are alleged with EMPL is established by Glytsos (1993) where it is declared that such inflows tend to intensify rate of the formation of capital. Therefore, enhance household consumption expenditure and drop down unemployment by not only favoring the beneficiaries rather others as well – being into inter and intra related business (Bakht & Mahmood, 1989; Amjad, 1986; Conway, 1992). Thus, there is not any disquiet to validate that future value of EMPL of SAC is reliant upon flow of WREM to such nations.

In case of other variables, it is dug out no causal rapport on GDP and INF, since viewed-in for EMPL. Referring to GCF, though one way causal relationship is confirmed however, for the most part of the models, fail to show any traces of causality run ups of the same to EMPL. In case of LIT at large, the findings of unidirectional causality with EMPL are defensible. Similarly at CONS and POP, evidences of causality knot ups with EMPL are bona fide. However, at Model-II and Model-III, POP is convicted of a show of bidirectional causality.

4.9 Summary of the Results

This section is to assist on having a hold of specifically regression results. To recall briefly, for long run cointegration, bound test and Kao (1999) for SAC (time series and panel) are used. Findings do validate long run relationship on accord of each of the model in either segment of the analyses, except at Model-II and Model-III for Bangladesh. Complementarily, in case of either of SAC, adjustments of

disequilibrium are found in repel of either of the asymmetric states, since ECT are diagnosed as baring correct sign and nevertheless significant at each of the model.

For prompt look, long run results backed on ARDL and FMOLS, in respect of time series and panel SAC are retrieved in Table 4.38. Concisely, FDI is found significant in relationship with EMPL, apart from India. Whereby, looking onto FORDBT, coefficient is found significant at Pakistan and India. In context of FORAID, significant effect is only evident at Pakistan. Moreover, WREM are also found significant at SAC with the exception of Sri Lanka. Glancing on the direction(s) of impacts across the countries, FDI has assorted, FORAID and WREM have positive, and FORDBT is convicted for negative effects – wherever significant.

Table 4.38
Summary of Long Run Results Time Series SAC

Pakistan				
Regressor	**Cointegration**	**Significant**	**Insignificant**	**Effect**
FDI	✓	✓	×	–
FORDBT	✓	✓	×	–
FORAID	✓	✓	×	+
WREM	✓	✓	×	+
Bangladesh				
Regressor	**Cointegration**	**Significant**	**Insignificant**	**Effect**
FDI	✓	✓	×	–
FORDBT	×	- -	- -	- -
FORAID	×	- -	- -	- -
WREM	✓	✓	×	+
India				
Regressor	**Cointegration**	**Significant**	**Insignificant**	**Effect**
FDI	✓	×	✓	- -
FORDBT	✓	✓	×	–
FORAID	✓	×	✓	- -
WREM	✓	✓	×	+
Sri Lanka				
Regressor	**Cointegration**	**Significant**	**Insignificant**	**Effect**
FDI	✓	✓	×	+
FORDBT	✓	×	✓	- -
FORAID	✓	×	✓	- -
WREM	✓	×	✓	- -

Table 4.38 (Continued)

Time Series Panel				
Regressor	**Cointegration**	**Significant**	**Insignificant**	**Effect**
FDI	✓	✓	×	–
FORDBT	✓	✓	×	–
FORAID	✓	✓	×	–
WREM	✓	✓	×	+

In case of SAC panel, entire variants of FCI cast significant effect on EMPL however, except that of WREM, rest of the integrals of FCI are viewed as opposite in relationship to EMPL. Glimpses on short run results are publicized in Table 4.39 accordingly. It is visible that coefficients of FORDBT are significant at each of the country where ever the said model is run. Nonetheless at FDI, FORAID, and WREM also, significant alliances are found at each country-case where applicable, excluding Sri Lanka. Repetitively, analyzing directions of alliances, mixed results are evident since the categories of FCI are viewed at each of SAC.

Table 4.39
Summary of Short Run Results Time Series SAC

Model-I						
	Pakistan			**Bangladesh**		
Regressor	**Significant**	**Insignificant**	**Effect**	**Significant**	**Insignificant**	**Effect**
D(FDI)	✓	×	–	✓	×	–
D(FDI (-1))	✓	×	–	- -	- -	- -
	India			**Sri Lanka**		
Regressor	**Significant**	**Insignificant**	**Effect**	**Significant**	**Insignificant**	**Effect**
D(FDI)	✓	×	–	×	✓	- -
Model-II						
	Pakistan			**Bangladesh**		
Regressor	**Significant**	**Insignificant**	**Effect**			
D(FORDBT)	✓	×	–	No Cointegration		
D(FORDBT (-1))	✓	×	+			
D(FORDBT (-2))	✓	×	+			
	India			**Sri Lanka**		
Regressor	**Significant**	**Insignificant**	**Effect**	**Significant**	**Insignificant**	**Effect**
D(FORDBT)	✓	×	–	✓	×	+
D(FORDBT (-1))	- -	- -	- -	✓	×	+

Table 4.39 (Continued)

Model-III						
Pakistan				Bangladesh		
Regressor	Significant	Insignificant	Effect			
D(FORAID)	✓	×	+	No Cointegration		
D(FORAID (-1))	✓	×	–			
D(FORAID (-2))	✓	×	–			
India				Sri Lanka		
Regressor	Significant	Insignificant	Effect	Significant	Insignificant	Effect
D(FORAID)	✓	×	+	×	✓	- -
Model-IV						
Pakistan				Bangladesh		
Regressor	Significant	Insignificant	Effect	Significant	Insignificant	Effect
D(WREM)	✓	×	+	✓	×	–
India				Sri Lanka		
Regressor	Significant	Insignificant	Effect	Significant	Insignificant	Effect
D(WREM)	✓	×	+	×	✓	- -

4.10 Conclusion

This chapter has provided a ground to write, elaborate, and discuss the segments of findings separately on account of time series and panel data formed for SAC. At the beginning, descriptive statistics and correlation matrices have developed a platform to understand the statistical attributes of the data that is considered for the later empirical findings. Before the conduction of the empirical analyses, in order to explore short run and long run relationships and state of significance on each of the regressor – encompassed through the examination of state of stationarity and test of weak exogeneity. In addition to that, IRVD has maneuvered different state(s) of effectuations of various forms of FCI on EMPL of SAC. Whereby, in case of split of SAC, methodology of SUR has enlightened the behavioral consistency of EMPL at most of the countries in against the joint session of FCI. At the latest stage, both segments of the data have trialed for the Granger causality test.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter exhibits to render the conclusions of the study in an orderly manner. At the prelim, the present chapter embarks precise notes on the summary of findings that fling into the text the validation(s) of the hypotheses, furbished earlier. Later on, policy implications are conferred in a succinct those are specified for each of the component of FCI next to the countries in consideration, given their employment concerns. Subsequently, the arguments are rendered on the limitations of the study which are extended to the counseling of future research.

5.2 Summary of Findings

Rising or either steady unemployment is one of the biggest challenges of the developing world. In particular, the situations turn out to be more crucial when countries like SAC lack behind in holding the requisites of capital to address such awful macroeconomic whereabouts. Exhaustively sighted facts and figures led to an obsession to cite a relationship of FCI and EMPL in multifold states of junctures. Given the nature of research objectives, the study got accommodated with multiplicity of econometric modus operandi those enabled to answer entire research questions. In precise, research was divided into two categories of analyses. That is, time series analyses conduction on each of the preferred country at South Asia and time series panel that augmented in the computations of the pooled panel facts on SAC.

The findings of the study, in accordance with the earlier furbished objectives of the study are detailed as follows:

The first research objective is recalled to be as to find out the impact of each component of FCI on the EMPL of SAC in different horizons of time. In this respect, the FCI were separated out into four components, the first of which being FDI. Furthermore, FDI was hypothesized to have significant effect on EMPL of SAC. The result did suggest that hypothesis is thereby found to be held true on entire countries, apart from India. In supplement to the significant effects of FDI on EMPL, the directions of effects in long run were recorded negative in both segments of analyses, other than at Sri Lanka. Additionally, in case of Pakistan and Bangladesh, similar negative relationships were found in short run time span. Besides that, the hypothesized state of FORDBT was the submission that it is to significantly affect EMPL of SAC. The findings of the study did stand to vet the hypothesis in both fragments of analyses. However, no long run relationship was accorded at Bangladesh. Meanwhile, in an attempt of looking onto the sign of coefficient in long run, the results stood to reinstate that there have had negative state of being of FORDBT and EMPL, in case of Pakistan, India as well as at panel. In addition to that, mixed results were located on each of SAC in short run, however significant.

Among the fraternity of FCI, the hypothesis built on the realm of FORAID was the consideration of its significant effect on EMPL of SAC. It is out of the ordinary to note that findings notified that the hypothesized statement on FORAID and EMPL was honored in both segments of analyses however, lacked in affirming long run relationship at Bangladesh. Also, in case of Pakistan, positive effects signaled for the direct relationship of the two. However, in case of short run, not only do assorted results were outlined at each country rather in respect of panel analyses, inverse relationships were established on FORAID and EMPL in long run. Subsequently, in the trace of collisions of the constituents of FCI, WREM were also

hypothesized to have significant effect on EMPL of SAC. The findings of study contributed to validate the hypothesis in both time horizons and nevertheless, on account of both of the segments of analyses, except for Sri Lanka. Additionally, it is worth noticing to memorialize that long run EMPL effect of WREM stood positive in the itinerary of entire countryside and panel analyses – wherever significant.

Later on, summarizing the findings gathered to trace out the state of FCI based shocks and variations on EMPL, thereupon reliant on IRF, enabled to text that early FDI shocks were traced by a sharp positive heightening of EMPL of Pakistan, akin to Sri Lanka. At Pakistan however, tumbling in all along path of future movements – effects of shock in FDI retired off at 23 years. On account of FORDBT, at initialized stage, volatile and less significant variations were apparent at EMPL. However, till 12 years, EMPL was looked for sliding up at visual continuous but steady pace and later wiped off at 21 year onward. Holding facts of one standard deviation shock in FORAID and the follow-ups of EMPL, it was evident that initial plummets of EMPL resulted at the back of FORAID. In contrary, later period did confirm for the upward trend of EMPL as an outcome of FORAID that went far above line of margin after 21 years at future. Where else, detection of WREM-rested trends of EMPL, traced via IRF, clarified for lesser glide at the earlier stage. However, continuity of regular fall of EMPL till the midst of selected range later entailed with an uplift of EMPL at the start of year 13 and further led to export the graph of responses of EMPL to proceed beyond line of margin. At Bangladesh, most of the variants of FCI failed to be responsible for the credible shocks towards EMPL. Whilst in case of India, stagnated responses of EMPL were scrutinized for FDI and FORDBT. Nonetheless, low pitched heighted repels of EMPL were observed for FORDBT and WREM, since Sri Lanka was considered.

Second part of the vary research objective was to help in visualizing and separating the relative importance of each of the explanatory variable, preferably FCI in the housing of EMPL of SAC. For the said purpose, FEVD was run. In case of the entire models examined, it was found, in general, that most of the variations accounted on EMPL were repelled due to own innovations. Apart from Sri Lanka, on account of innovations in FDI, recorded variations on EMPL remained negligible – while turned towards FORDBT, one standard deviation shock was to bring significant variations in EMPL therefore, looked to engage EMPL at rising pattern, within the specified range of analyses. Likewise, findings on FORAID were again significant and visualized as engaging upward trend on EMPL however only at Pakistan. To end with, WREM were tested to comment on the relative importance of the same in respect of the shocks and variations posited on EMPL of SAC, in result of one standard deviation of shock in the same. Findings confirmed of consequential variations at EMPL of Bangladesh. Whereby, unsubstantial brought-abouts on EMPL of Pakistan were traced, due to mild state of recorded shocks – relative to India and Sri Lanka.

The later research objective was furbished on the ground that how FCI cause to snug employed labor force though SAC confront with same state of economic hitches however, horizon and dimension(s) of employment being different at each country level, given versatility in size of their economies. Nonetheless, since SAC coincide to each other on the ground of smooth flow of foreign capital, by this mean, the need developed was to visualize either joint impact of FCI on EMPL of each country differs at given time. For the said objective, the results were gathered by the methodology of SUR. The results encroached that effects of FCI at decomposed form, as were significant in transforming impacts on EMPL at desegregation of the

countries, showed similar significant effects on disintegrated level of SAC, though were tested jointly. To add further, there were not only found significant results on each of the country, rather also positive to EMPL, with the exception of the case in India, where although coefficient sign held negative however, superficial in scale of effect. Thus, the findings accounted for dissimilarity of conclusions at adjoin and segregation of SAC and FCI, on account of direction of effects, either.

Furthermore, research objective was settled to assure the existence of causal relationship, if any, between the constituents of FCI and EMPL, at SAC. For the said purpose, the method of analyses was Granger (1969) test of causality. In case of individual countryside analyses; at FDI, the traces of one and two way causal knot-ups were substantiated and so did the same on part of FORDBT and FORAID. However, it is worth mentioning that in the stardom of FCI, FDI and WREM accounted for reverse causality to EMPL at majority of the countries within the analyses. Referring to panel data, FDI was listed for bidirectional causal point of standing with EMPL. However, to add-on, rest of the variants of FCI mainly FORDBT, FORAID, and WREM possessed one way causal relationship with EMPL, where run of causality got evident in the perspective of EMPL to FORAID and FORDBT — whereas, unidirectional causality ran from WREM to EMPL.

5.3 Policy Implications

Seeing the demonstrations related to the FCI, in aggregate or either in disaggregate form and in both segments of the data, conform of the significant correlation with EMPL of SAC. Such linkages to aggregate employment creation are certainly relevant to the concerned governments, union leaders as well as the policy makers.

5.3.1 Directives for Foreign Investment Facilitation and Labor Restoration

Whilst the empirical evidences imparted from this research do mitigate the entire perceptions of constructive impacts of FDI on EMPL, the crucial factor in the aspect of macroeconomic performance under the shadow of FDI utilizing countries is the outsourcing of highly productive and skillful bunch of labor force. That is how the SAC could reallocate the available resources in a productive and constructive way. Envisioned at the micro level, job destruction caused due to the need for only skillful labor tends to marginally effect the industrial production because of radiant use of capital, however, displaced labor force later on fills up at new job(s) soon after ample expertise are gained.

Whereby, there arise certain questions while the need for the creation of properly trained and skilled work force is highlighted. For instance, will the political and union leaders recognize the need for improving human capital so that precious inflows of foreign capital, in shape of FDI, are to be efficiently used and thus turn out to be positive to the available work force of each of the countryside, analogous to Sri Lanka, since already proven significant in the collaborations with employment in South Asia. However, it is important to recognize that in the line of FCI to SAC, the FDI is found as occupying least fraction of the overall flow of foreign capital.

Globalization is a need for achieving prudent development. Therefore, implies for the futuristic view of policy implication(s) for looking towards new channels of foreign investment across the borders for the divergent inflow of investment capital on the affirmation of positive spell-outs on employment together with the need of training and enabling the work force in occupying place at the skillful human capital. The study implicates to develop an optimistic approach towards FDI to certainly come along much more gains at macro level, preferably onto the engagement of maximum

work force, thus will be inclined to offset the computed skimpy destruction in terms of job loss to SAC.

In case, India that grasps quantum inflows of foreign capital, mainly in the shape of FDI, the government allows the foreign investors to introduce latest technologies within the country to take hold of future production goals. Thereby, since the available labor force that is heterogeneous in terms of being conversant to the technological aspects thus either sheds down from the hub of employed labor force or increases at stagnant and low pace, as evident at IRF. In this respect, it is mandatory to have a follow up of soft regulations for the foreign investors. Nevertheless, as causal tie-ups are evident, the essential remedies are thereby to be called-for to compensate both investor and the labor force such as; to suggest the firms to increase the labor utilization i.e. to be labor intensive and in return, do legislate the cut-off of with-pay yearly leaves which is to favor the foreign investor. Nevertheless, labor force must be well equipped with proper education and technical skills so as to get engage in suitable jobs either. Otherwise, foreign firms do act as lethal to job creation.

So, preparing work force according to the modernized industrial needs is a requisite to take a hold of positive growth at all the indicators of macro economy. Thus, it is indispensable to have a positive view of FDI and nevertheless calls-up to commit the policy norms in context of motivating such vital forms of FCI in the coming years ahead. If programs like of training sessions and charge of no rigid wages are followed, would then be highly likely for the government to legislate the continuity in the inflow of FDI that later enables to improve overall macroeconomic stature, given that labor force is embodied with industrial skills and is well aware of the techniques of handling diverse operations of mainly foreign production houses.

Like in the case of Bangladesh, vast population works abroad for the fact that they are unable to fetch suitable jobs within the country. The receivables of foreign investment are implausible but are nevertheless inevitable to with-stand in globalized world and to be essentially relied upon for the attainment of economic growth. In this terra firma, the government is to motivate the people to seek expertise and strive for building human capital. Whereupon, it is highly likely that foreign investors are technology reliant, thus unless the base of human capital is stronger, it is harder to make the labor force avail job opportunities. Thus, to stop the brain drain which is emptying the country from talented labor force, further liberalization on foreign investment is needed and thereby to be supplemented with well suited labor force to garnish the foreign investments. Such of the customs are necessitated due to obvious long run association and causal attachments.

It is not unimportant to mention here that; in this regard, the concerned governments of SAC must be transforming benefits to the available labor force in the shape of the provisioning of free/subsidized platform of proper training in order to address the job loss thus ought to reaffirm future job creation and on the similar point in time, legislate for tax concessions/incentives for particularly the foreign firm business(s) for improvising and encouraging their beliefs of shifting mounted size of investment, knowing that the net inflows of foreign investment are petty. Doing so, the less intensive negative effects of FDI on most of the countries at SAC and even at panel analyses can consequently be renovated to act in opposite, thereupon the follow-ups of such policy instruments. Simultaneously, such steps must be obligated due to the fact that not only do the noteworthy spillovers of FDI are located at either time horizon rather on accord of causality, unidirectional and bidirectional causal point of standings are also affirmed in the empirical results.

At a glance, Sri Lanka is though less populous however, the men and women are altogether engaged in the working labor. Currently, the government is ought to rectify the policy options to devote more of the favor to the educated youth, particularly women. It is to the reason that there are persistent mismatches in context of the supply of skilled labor force towards of the employers. For instance, as the capacity of capital needed for the growing economy is buoyant, the policy reforms do require assembling for the enlarged pledge of foreign investments especially into the tourism industry that stands to be the third largest sector in terms of foreign exchange earnings. Such policy intimations are; to further circumvent property buying restrictions so as to transpire job market for the workable force together with the ease-offs in respect of tax exemptions. Without such allowances, the Sri Lankan climate for positive outcome of FDI will remain far less attractive to justify any goodness in local job market. The spirit to overlay such policy standards is gained from significant positive long run effects of FDI and nonetheless of obtaining noticeable decomposed variations to EMPL. Sri Lanka competing with destinations of South East Asia needs to have stable and more flexible policies of land allocation to make sure that workable labor force is to be associated with both public and private sector, through some of the afore cited soft regulations, for the acquiring of improved statistics of overall level of employment.

Moreover, like in the case of SAC, foreign firms cast positive effects on local firms, since they learn from the foreign firms. Therefore, in such nations where already less productive firms are mostly in number, cannot be the reason for future business gains to foreign firms, given that investments are not done in those local firms. However, much of the benefits are accrued to direct effects i.e. enriching of business of local firms too, than to the potential benefits of spillovers which results

from the transfer of technologies. Thus for SAC, sufficient mould of attention is needed for the restructuring of local business firms such as through improvisation of small scale business(s) by developing industrial zones – equipped with tariffs on basic utilities – complemented with tax reliefs and rationalized markup. Thus, nurturing of such policy incentives are supposed to not only encourage beneficent spillovers to take place for the sake of gaining maximum macroeconomic benefits out of those – where job creation is of first line objective rather also enable to establish reliable substitute to foreign firms.

For Pakistan that has a total population of 190 million, the challenges on account of suitable remedies for getting better results in employment stature, at the back of FDI, are not somewhat different to that of the rest of SAC. Pakistan also adheres to the flow of foreign investment that is almost near to the ground for the past year, except that of new initialization of China-Pakistan Economic Corridor that engages quantum size of foreign investment. The youth population is an asset for Pakistan thus it is necessitated that the government is to put into practice honest efforts for the provisioning of proper avenues, such as youth skill development programs by the public investments in rural and neglected areas, interest free loans, and youth self-business schemes to enhance the skills so as to have proper utilization of their energies, before there are any harms to the entire labor force due to the demographical changes ahead.

Nevertheless, ever since future spillovers of FDI on EMPL, recorded at IRVD, have reflected unsubstantiated fallouts, therefore, imply that; not only for Pakistan rather for entirely SAC, since to be open for foreign firms is inevitable, however, while making-up oneself as of being attractive for heavy FDI inflows, getting hold of internal macroeconomic stability and stagnant growth of output is quite obligatory

and must be complemented by an establishment of proper law and order, efficient and the predictable applicability of justice, protection of human rights, and surely of the minimization of corruption with the state by the assertion of appropriate functioning system of judiciary with an established agencies that enforce law, for the credible flow of foreign investment and to capture macroeconomic gains from FDI.

5.3.2 Foreign Debt Preeminent Use and Dictum for Proxy

To give illustration(s) on foreign debt, the appropriate management of funds is indispensable since it is the spending of money that does not belong to self rather is hired from external source. Given the significant negative postulates of foreign debt on Pakistan, India, and at panel of SAC, the policies like of; the use of market oriented domestically fetched out debt are required to be up-scaled to overturn the external debt. Additionally, the use of public-private partnership and worker remittances must be used to complement the needs for capital. Although difficult it is to remove the dependence on foreign debt especially for the indigent SAC, due to fall short of capital, however, to curtail illicit flow of such finance, i.e. foreign debt, requires an immediate subversion towards substitute form of foreign capital.

For a vital record, Bangladesh and Sri Lanka are listed at the rank of comprising lowest regulatory controls therefore their governments have to formulate pragmatic institutional regularization so as to permit the gains of targets i.e. creation of jobs at the back of FORDBT, since such capital inflows engender capital. In this respect; ever since insubstantial and/or no long run association came into view, the policy option must be divulged towards exploitation of foreign debt replacement by the triggering towards private and public financial and non financial private sector for securing the productive returns on physical as well as human capital. Thereupon, the

targets for an infrastructure build-ups or either the mechanization in agriculture business(s) are to be settled to promote the rate of economic growth and provisioning of jobs.

In this respect, firstly; there must be a genuine establishment of few of the check points to have clear view of funds dispensement/allocation and utilization i.e. policy regulation/execution and strong accountability, at foremost. Herein, as Pakistan is ranked at an inappreciable point of sound governance in respect of voice and accountability thus the perceptions of the extent that whether country's citizens are given rights of participations in the selection of the government, the freedom of association and expression, and free media are the important aggregates for the effective restoration of the uniformity in the process of accountability i.e. either government or public elsewhere. Doing that so not only can make the foreign donors feel energized while are signaled for any of the credit favors rather also enable the state authorities for the effective gain of benefits from such foreign inflows, unless not completely retired-off of the foreign debt. Secondly; policies of self sustainability are obligatory such as; enhancing marginal taxes, settling down threshold point for the developmental expenditure, and the increase of exports to swell foreign exchange reserves.

Therefore, the literal throw of send-off to foreign debt has requisites in the manner of; financial and fiscal stability and solvency, credit market perfections, and proper and effective policy implementations from the government side of poor contracts. All of the said are thus to be called-up in SAC and particularly in India, where at one end, negative rejoinders of EMPL are evident and on the other side, the mass of debt inflows is more than half within the variants of FCI during the decade of 1980's and 1990's and has highest debt to GDP ratio of 69 percent by 2015. While

logged-in with such policy alternatives, feeble macroeconomic aspects of negative effects on EMPL could be turned onto righteous direction for effective and self reliant economy.

However, given that foreign debts are unavoidable for especially poverty-stricken SAC, it must be planned to keep them manageable by focusing on policy options like of; long term debts, raising of sovereign loans at concessional terms and at longer period of maturity, no unnecessary rescheduling, and by rationalizing interest rates on the bank deposits of non-resident countrymen. As global financial crises of late 2000 have clarified that developed and developing countries are vulnerable, therefore, for SAC, the need is to consider within border factors and forces as well as management of government fiscal balance sheets. Sound macroeconomic integrals by the side effectual regulatory policies are essential for analyzing the associated cost of obtaining welfare, substantial output, and employment creation with the given shocks. To add on, fiscal and monetary authorities, debt managers, and regulators of financial sectors of SAC have to have strong coordination amongst them on debt management for the sake of effective strategy outcome(s) -- given interdependency and interconnections among respective policy instruments, by sharing information on government current and future cash flow needs.

To be put in another way, the goal(s) of recipient country of foreign debt must be towards prioritization of payments in order to reduce total debt burden thereby leading to the complete discard of sickening debt. Meaning that floating of funds should be towards highest interest cost debt first. Doing this so, mainly SAC can sufficiently reduce their foreign debt burden since it entangles significant negative relationship with EMPL. Critics of neo classical economists do explain foreign debt

as a cause of its own accumulation, instability of country in meeting debt obligations, debt sustainability, and real exchange rate depreciations – provided that debt is in the denomination of foreign currency. Thus, leads to make it tough for the borrowing countries to pay it off and thereby reciprocates donors' unwillingness to auxiliary lending.

5.3.3 Intramural Composition and Foreign Aid Emancipation

After the preceding conclusions are drawn at the empirical results of multi-angled states of FORAID and EMPL, it becomes important to in-text the favorable policy implications to gear up for effective future aid allocations. In case of Pakistan, since there are established positive junctures of the FORAID and EMPL, therefore, the policy recommendations are firstly; the substantiation of sustained economic growth together with the maintenance of good governance[39] that seems to be more weight-full policy need than any of the rest. Even for SAC, the focus must be towards the ensure of agendas like of properly governed state(s) so that donors must continue with their grants and if not doing yet – start rewarding good governance.

Particularly, the dimensions of governance are aggregated at voice and accountability, political stability, absence of violence, the effectiveness of government, regulatory controls, rule of law, and nevertheless the control of corruption. Conferring to the countries at South Asia, Sri Lanka is the least governed country according to the worldwide governance indicators of 2012 whereas Bangladesh is the second lowest ranked country in terms of the aggregated indices of good governance. Such states are grounds towards insignificant and/or no long run associations for FORAID and EMPL at these countries. Similarly, governance

indicators refer Pakistan at number second and India is comparatively at better state. However generally, entire countries fall at the negative range[40].

Of the policy suggestions, second recommendation is that; foreign aid must not only be reliant on qualities of good governance rather also on the decisions of donors, while thoughtful considerations are fortified on the sector-wise needs of funds of the recipient. Given enormous potential gains from aid allocations, choice of sector-wise needs for aid differs from country to country. That is; the production sector must fetch up high priorities in receipt of foreign aid in the countries with low governance, such as Sri Lanka and Bangladesh. However, countries with medium or high governance should have such inflows on economic infrastructure. It is so because in former case, most of the outcomes are of economic growth i.e. non developmental whereas, in later case, the discussion about economic infrastructure is meant by developmental expenditures.

Countries of low governance such as SAC are avoided by the donors for aid pledges, especially for developmental projects, due to higher element of corruption that results in mishandling of such inflows of foreign capital. On the other side, due to minimum corruption and medium or high governance, donors feel less hesitant in pledging of funds dispensement on economic infrastructure i.e. developmental projects. However, either of the situations results in catering and assembling for the widening of job market. In addition to the fact that not only do Bangladesh and Sri Lanka are ranked weakest in terms of governance rather are also graded at the lowest rank in case of control of corruption which means the exercising of public power for the private gains that includes petty and grand form(s) of corruption, since victimized for the capturing of state elites and private interests, thus altogether throw a call to address the said issues for the sufficient gains from aid allocations.

Thirdly; for better results, donors are supposed to be given livable controls on funds management, especially in economies like of SAC. It is because, aid acts to stimulate three channels; the household for consumption and feed, supports the government in various sectors where expenditures are being/to-be carried out, and lastly, in the micro financing to help establish own business(s). In this respect, since India, analogous to Bangladesh and Sri Lanka, performs weakly in respect of institutional and regulatory controls, thus for effective management of funds, though utensil at either of the category/sector, controls should be bestowed on donors for proper channelization of funds towards primary aim of significant triggering of output via labor force and for overall macroeconomic stability.

The sequels of likely liquidities of capital on employment are to disprove the efficacy of such funds, mainly at broad spectrum i.e. SAC, as ascertained in empirical results. It is primarily due to the institutional dispersions, lack of decentralized field management, unmaintained focus towards the in-need sectors of foreign aid within SAC, and most importantly, the neglected prioritization of human resource management. In evacuating such harsh facts through legitimate policy tackles at states level herewith foster the positive spell bounds on employment. However, at a country level i.e. Pakistan, positive record of whereabouts is evident. Therefore, it is crucial for Pakistan to retain political stability, which according to worldwide governance indicator ranks Pakistan at the lowest, to remain equipped with the uninterrupted venerates of foreign aid transmits. Sound political and legal foundations are indispensable to achieve greater coherence in foreign aid policy, while measuring the transmitted results of foreign aid-financed activities within the economy, particularly of infrastructural buildups that fortify economic activity and generate greater capacity for employment.

Moreover, policies are also needed to curb the dependence on donors as either agent(s) of rendering assistance on economic development or the institutional controls. The point of considerable attention is to develop strategies that are to attract private capital, free trade agreements, across border exchange of labor force, and etc. Such alternatives seem to be more viable for economic progress and to maximum engagement of labor intensive activities than that of government to government reliance for materializing economic growth and development.

5.3.4 Proclamations on Worker Remittances and Labor Maneuvers

With this in mind that worker remittances are important catalyst for macro economy, key thing to commit to memory is that such inflows are responsible for three of the mainstay benefits for the legatee. Firstly; that the remittances support (finance) the deficits, pertained at current account. Secondly; fuel-up economic growth as well as social stature of the country by improving the living standard of the beneficiaries and at third; consequence in retaining economic development at the back of wellbeing of the people. Since, worker remittances widely proof of holding positive spell-outs on employment of SAC, thus primarily demand for indebt of safety cover by the parent country to the human toll that is exacted by the remittances. It is to be done by supervising recruitment agencies to prohibit any of exploitation of emigrant(s).

To the general notice, ever since SAC are the developing economies therefore, remittance income(s) are generally used to settle down food expenses, health and education, buying of property, and for instance, rental payments. Thus, relatively a small portion of such worthy FCI is left for the intensification of formal financial system. Therefore, tends to limit the opportunity to grow the savings for future

investment due to being leaked out of financial system. Such opportunities can be seized via initiating remittance-linked bank saving and bonds that promise high rate of interest and enable the remittance income to grow much faster, provided left seized with the bank until the immigrant returns. Such bargain can help generate pool of fund(s) for the continual channelization of developmental projects like that of airports, roads, and power stations, which fortify role of operational labor.

However, viewing worker remittances as the catalyst of favoring economic development due to increasing of aggregate demand is nevertheless a macro placebo, for particularly SAC. To be clearer about such inflows, their net effects on the domestic output may either be zero; thereby, in this situation, any gain from remittance income to internal economy may be wiped off completely by a possible decrease in net exports. It is none other than a scenario when the adherents of such inflows tend to move towards the buying of imported products, instead.

In given circumstances, the impact of worker remittances on exchange rate will be offset by slope of foreign currency supply curve, i.e. rise in the demand for imported goods by the recipient country. It is therefore a general reminder to the governments of SAC and to their monetary and budgetary authorities that; since inflows of capital are much faster in bring up of the consequences on the ultimate macro economic indicator(s), therefore, care must be taken while encouraging flexible exchange rate system within the country. To be more conclusive on that, if exchange rate variations are not pegged and the imports demand is bit sensitive to exchange rate, remittance inflows will not affect exchange rate rather will tend to enlarge the horizon of import demand. Thus, the primary effect of such inflows will fall on import substituting industries by causing net exports to decline. On the other side, instead imports are not sensitive to exchange rate, the exchange rate will primarily be effected

by such inflows and then ultimately from exchange rate to the exports thus, resulting in adversely effecting exporting industries.

For a necessary snug, either of the two scenarios, where demand for goods in domestic and/or international market is going to be dampened, signals of a silent whisper of job loss, on the bases of exchange rate appreciation that results-in due to an improvement in the flows of foreign currencies into current account category of "income(s) from abroad". Therefore, in SAC, knowing that heavy inflow of foreign capital relies at worker remittances, policies needed here are the facilitation of new businesses within the country together with the preparation/assembling of superior quality goods, however at market price, in order to discourage the citizens from slipping towards foreign products.

The marginal gains of business and output are the needful for India where the economic growth targets are settled to be high. Since the remittance inflows increase the rate of capital formations that later on contribute to engage employment, therefore, the proper channelization of such capital is to be dealt through cautiously designed policies. That is, at the state of receivables of remittance income; by improving migrants' access towards bank account via issuance of identification cards for amicable opening of account, encouraging the bank of source country to open up branches in the destination countries for the centralization of the credit across the borders, and the development of appropriate products embedded with the use of technology such as the offering of tax free business startup with low markup charges on the credit to the emigrants and their families and linking account maintenance through mobile phones. All of the stated policy options possibly create an atmosphere of ease-of-credit for the government thereby help in continuation of positive fallouts on employment.

Similarly, in case of Sri Lanka, as said by her spokesmen that the country needs massive flow of capital to revisit the goals of economic growth and development, it is therefore required concrete and implementable policy norms to circumvent inconsequential fall-outs of EMPL — backed at WREM. Policy dictums are like that of; introduction of remittance bonds, convivial opening of foreign currency account, premium rate of interest payables, safe transfers of funds by the way of microfinance institutions, and nonetheless, promotion of financial literacy. Such strategy norms by the state policy makers assist to mould the stimulation of money circulation, resultant from the remittance income, towards chucking of more calls to the available labor force for their new or better placement and for the continuity of apprehended gorges of employment, reliant at worker remittances, either.

Also, for Bangladesh and Pakistan, akin to the similar pose of policy suggestions such as those for India and Sri Lanka, there is an immense need to focus on stimulating the investment of remittances. The policy options envisioned are; to outreach the emigrant through microfinance institutions and migrants' service bureau(s) to assure them tax reliefs on the importation of capital goods as well as schemes of small and medium enterprises entangled at infrastructural, financial, and innovative business startups together with the training schemes to run the business(s). Such policy notes ought to be followed-suit by public and private partnerships of businesses for the bridging up of apparent saving and investment gaps in the initialization of developmental projects and nevertheless promote consumption of locally assembled good and services which are earlier far away to be taken into the consideration. Moreover, it cannot be postponed the need to discourage beyond limit appreciation in exchange rate which never gains favoritism due to the dampening of

export demand in the result of being high priced. On the similar note, rise in import demand is to be curbed at the reason that goods across the border are cheap on accord of local citizens those who are capable of buying more foreign currency at the back of currency appreciation. All of afore given policy standards further aid the assenting impinges on employment to not get solidified.

However, in suppuration of all discussed facts, facilitations are required in SAC to channelize legal ways of sending remittance income so as to be recorded at the state treasury with no conservative encroach of tax imposition. Doing this so, permits the governments of SAC to assure rich foreign exchange reserves that are requisites of a developed country and thus makes them competent of carrying out expenditures on variety of projects and thereby can retain stamina to engage plenty of labor force.

All of the suggested policy options are recommended – backed at the fact that at large, negative imagery is traced at the components of FCI to EMPL. However, the positive postures of FCI cannot be avoided elsewhere. It is nevertheless at the findings of causal liaisons among EMPL and each variant of FCI and significant positive effects of combined version of FCI on EMPL at the disaggregated version of SAC.

5.4 Limitations of the Study

The study has initiated and evaluated perspective(s) on the importance of FCI and their effectuality on the level of employment of SAC. Whereas, since deputed on empirical findings, therefore encompasses with fewer limitations.

First; as traditional and quite conventional argument is discussed of data, this study stands to be neither apart from that allegory. The data viewed at different domains were identified for the discrepancies in the values on not fewer of the

variables used in the study. Therefore, in order to minimize the risk of erroneous value inclusions, it was desired to mostly rely on single authentic source of data. Wherein, in case of particularly Bangladesh, India, and Sri Lanka, need was to have numeric on all the variables but the data were not available for most of the variables before that of 1980 thus, disabled to include wide array of years into the empirical test on said countries. Secondly; the robustness tests are not furbished for better view of differing possess(s) of relationships, if any, among the variants of FCI and EMPL, especially in case of each of the country, on ground of multiple methodologies.

To conclude, however, wrapping up the discussions, it is indispensable to bring into notice that ever since EMPL behavior of FCI is primarily unveiled, therefore; given the data constraints and robustness tests are located far beyond in condensing the scope of the study. Such hunches may instead be tackled-with as point of mark for gearing up for further supplementary research(s).

5.5 Suggestions for Future Research

In view of the fact that the bases of relationship among constituents of FCI and EMPL are settled, future researches can have/generate ample ideas for making their way in creating and filling up of the gaps within the scope, literature, conceptual framework, and on methodological ground.

Firstly; the base idea of FCI and EMPL can be tested on the bases of being sector specific and/or choosing for the countries of due concern on particular issue. Given that inflows of foreign capital are in multiple fashion and especially foreign aid and foreign debt are sector specific i.e. tied or un-tied in their mainstay, further research may be footed on being sector specific to check for the sector-wise effects of FCI on employment creation. If sectors are diversifiable into primary, tertiary, and

service sector, panel data analyses would then be justifiable on even choosing for single country analysis.

To add on, researches may also be sketched out while conceptualizing improved version of theoretical/conceptual framework by taking into consideration the effects of either all or, if risky of divergent base of research, in-partial, the flow of any of the constituents of FCI, however from different domains and its impacts on employment creation of the beneficent state(s).

To end with, same impacts and relationships imparted in this study require having further follow up in the same line of investigation by inclusion and/or choice of other developing countries of the world that are nevertheless misfit on account of employment creation, however are at receiving end of heavier inflows of foreign capital.

5.6 Conclusion

This study has been entirely to in-focus shared and unaddressed problem of depressed level of employment in SAC. However, aim has been to locate any of the effectuality of FCI on employment creation. The motivations piped-up while in the past literature limited findings have been located those merely spotlighted any of such in-depth study initializations whereas, theoretical fraternity has conceived of such significant employment fallouts of entire components of FCI. Based on research objectives, proposed methodologies have enabled to sufficiently in-text the virtues on FCI and EMPL — in collective and in segregated form of alliances at SAC.

The policy implications have not been to avoid such worthy inflows of foreign capital rather better channelization, fervent management, insightful accountability, internal macroeconomic stability, and sophisticated handlings of FCI have been some

of the come out suggestions. The study not only has filled the gap in literature rather also donated innovative platform for future empirical research to be persuaded for continuous improvisation of the baseline subject matter of employment creation in the line of worthy inflows of foreign capital.

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END NOTES

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1 Pakistan (-1.4%); India (-4.2%); Bangladesh (-5.3%) & Sri Lanka (-5.3%).

2 Indirect employment creation in terms of export orientation and import penetration (Greenaway, Hine, & Wright, 1999).

3 White noise means zero mean and finite variance. Thus, shows no correlation among the values in different times i.e. having constant conditional variance.

4 See Chaudhry *et al.* (2010), Malik *et al.* (2011), Imran *et al.* (2013), & Ali (2014).

5 It is due to the reason that, unlike other cointegration techniques, an ARDL approach is applied without the consideration of integration order of either I(0), I(1) or assorted, except that of I(II) (Pesaran, Shin, & Smith, 2001; Ali & Nishat, 2009; Khan & Ahmed, 2007). Having said that ARDL approach, according to Pesaran *et al.* (2001), is unbiased and efficient in respect of rendering better results than other cointegration approaches, it is indeed useful in publishing of small sample results (Narayan, 2005).

6 Weak exogeneity test looks for restrictions of H_0 that coefficients are not associated with an error term or exhibit weak exogeneity between one another (Johansen, 1992, 1995; Brüggemann, 2002; Ghassan, 2011) and gives off efficient influence on cointegration coefficient in the model (Jacobs & Wallis, 2010).

7 Where upper bound value is a representation that all variables are order of I(1) and lower bound value signifies for the fact that all the variables are order of I(0).

8 According to Nkoro and Furo (2012), reason being exercising IRVD in VAR is quite clear that; the desired information which is contained within the cointegrating variables become comprehensible. In applied research, to trace the responses of regressand against the exogenous shocks on the explanatory variables is not to be treated in cursory (Yousafzai, 2014).

9 When the error terms are contemporaneously uncorrelated to each other across the equations, no orthogonalization is required.

10 For the purpose of comparison on prescribed panel unit root test, see Banerjee, Marcellino, and Osbat (2005).

11 IPS (1997) elaborated that this statistic contains a characteristics. When there is lack of correlation among sectors for errors and T is same for all of the sectors, the normalized statistics on normal distribution, that is $\sqrt{N}\left(\frac{\bar{t}_{N,T}-\mathrm{E}\left[\bar{t}_{N,T}\right]}{\sqrt{Var\left[\bar{t}_{N,T}\right]}}\right)\Rightarrow N(0,1)$, where $\mathrm{E}\left[\bar{t}_{N,T}\right]=\mu$ and $\mathrm{var}\left[\bar{t}_{N,T}\right]=\sigma^2$ are arranged in accordance with Monte-Carlo simulation.

12 See Khan and Khan (2011), Rivero (2007), Prasad *et al.* (2007), Hassan *et al.* (2011), Breitung and Pesaran (2005), and Ramirez (2006).

13 Model of SUR got initiated by Zellner in 1962, and was afterwards studied by Telser (1964), Kmenta and Gilbert (1968), Phillips (1977, 1985), Srivastava and Dwivedi (1979), and Baltagi (1980).

14 Also see (Park & Ogaki, 1991; Phillips, 1991).

15 If, in fact, there exist no relationship between the equation and the disturbances (error terms) are uncorrelated, OLS is appropriate methodology. However, if correlation exists, more sophisticated methodology is of mainly GLS (Gujarati, 1995), as it promises to give more realistic results (Sumer, 2012).

16 In case of POP for Model-I to Model-IV, though the H_0 of weak exogeneity is rejected, however, there is no run of causality from EMPL to POP. Therefore, POP may still be treated as weakly exogenous, as elaborated by Ghassan (2011).

17 Upper bound DW critical value for Pakistan is 1.89. For rest of the countries, it is 1.96, respectively.

18 For the detailed version of discussion on account of flight of capital and causes on exchange rate systems, crisis of financial system, national savings, and the reversals of foreign capital, see Papanek (1973), Corsetti, Pesenti, and Roubini (1999), and Chowdhry and Goyal (2000).

19 Within the forms of FCI, FORAID is one of the core components (Friedman, 1995; Little & Mirrlees, 1974).

20 Countries like Pakistan heavily depend upon the external capital for addressing the needs of short fall of financial wealth. The capital is required for the carrying out of the developmental and non developmental projects. Base of FORAID is always seen increasing in Pakistan, due to low interest

payment – and/or because of being donation(s) by the donor countries without any repayable of principal amount.

Summing up the point of views of theorists and empirics, FORAID is found effective in exhibiting role in case of job creation, easing off of the taxation system, raising aggregate demand that initiates future investment, fighting against poverty, economic growth, and issues of unemployment (Little & Mirrless, 1974; Harris & Todaro, 1970; Isse, 1988; Adam & O' Connell, 1999).

[21] Debate of raising level of employment has important linkage with back stage clause of household consumption. In this respect, Bakht and Mahmood (1989) realized that foreign inflows like those of WREM tend to amplify the consumption and investment level of a country. However, names of Keynes (1936) and Lerner (1967) fall in the fraternity of the economist who illuminated that consumption expenditure is one of the core determinants of EMPL, which provokes the producers to carry-on or initiate either new channels of production in response of the swelled level of consumption or amalgamate existing one. In this respect, Conway (1992) gave a verdict that when flow of WREM remains consistent in its course, not only favors the aspirants either, however, in sequel of an overall increase in spending of money, does positively promote the level of consumption.

[22] Remittance income acts in context of "trickle-down effect" for the creation of new jobs due to increasing the level of investment in the host country at an intermediate state of point (Imran, 2004). Next to India and Bangladesh, where highest flow of foreign capital is nonetheless WREM, Pakistan is also being as a seventh largest country in the world in respect of the heir for the remittance income, according to MFGOP (2016), thus may not be treated as inefficient and less beneficial due to the situation that too much of the labor force (including artisan, doctors, engineers, teachers, technicians, and etc.) is working abroad rather can be declared as blessed due to couple of reasons. Firstly; the major flow of foreign income, though most of that is sent not through legal channel, i.e. instead of sent via legal route of Banks, so that to be recorded on the balance sheet of State/Central Bank of Pakistan and India, is sent by Hawala System (Hundi), then too contributes in the stoppage of exchange rate depletion. Secondly; manifold inflows of remittance income help in keeping alive the consumption level, though unsubstantial and perpetual, which is a successful motivator for publishing ads for new jobs.

[23] In long run, Phillip Curve's negative and flexible slopping is also questioned by the Monetarist i.e. Milton Friedman to be perfectly inelastic and parallel to vertical axis – showing reach of full employment level. Too much of the rise in the prices (Inflation) leads to less precise effect on the employment level, or either just a rise in the prices with employment to remain the same, if full employment level is reached, however not realized by the state authorities.

[24] Empirics stated mixed results of LIT and EMPL. In this respect, Wagner *et al.* (1989) looked into different state of consequences of on-job hiring on account of gender.

[25] The findings are in contrast to that of De Jong and Gardner (1981) and of Frank (1968). However, Bencivenga and Smith (1997) acclaimed that rise in population later acts as a source of growth for a country. Whereas, economic growth and job creation both tend to have similarity on ground of macroeconomic issues.

[26] According to Keynes (1936)'s verdict in "General Theory of Employment, Interest, and Money", consumption is an important determinant of employment generation however, itself depends upon the investment. It is because of the accelerator effect that, "income determines the level of investment" and hereafter due to multiplier effect, "investment determines income", it is the one that initiates consumption. Keynes (1936) believed that only investment capital cannot be sufficient in contributing to job creation unless have a follow up of continual consumption patterns.

[27] The coefficient of an ECT term is to explain about the speed of an adjustment of the regressand (dependant variable) on which the equilibrium is to be restored, from short run to long run. The coefficient that is found to lie outside the specified range i.e. (-1 <ECT< 0) gives a proposition that some proportion of disequilibrium that was accumulated on dependent variable is being adjusted for the changes in explanatory variables in the current period (Uwakaeme, 2015). Also, according to Asongu, Montasser, and Toumi (2015), while determining for the speed that posts to restore equilibrium, after deviation in short run, 0 indicates for no adjustment while 1 pin points for the full adjustment towards the equilibrium, one period later.

[28] Moreover, unanticipated and before the due time reversals and change/take-over of State Governments in past (from democracy to military rulers), carried forward great deal of

inconsistency on the policy suggestions for the fetch of FORDBT either, however coupled with the changes of lending decisions of the donors, since changed scenarios of ruling governments were viewed.

[29] Somewhat negative bring ups of effects of FORAID on EMPL may not be seen surprising though, found to be positive in long run, because of the reason of the channel that initiates the EMPL on the backing of FORAID. The channels framed earlier by Friedman (1995) are the execution of developmental and non developmental project financing on the ground of FORAID that enable the authorities (government or either private sector) to whisper for the call of jobs. However, due to either the element of corruption, or too much of the spending on non developmental projects (health, education, and etc.) may squeeze EMPL temporarily, due to the nature of spending on projects types, probably in different time lags, but not in long run where the findings confirm for the significant and positive spillovers.

[30] As suggested by Monetarist (Milton Friedman) that; slope of Phillip Curve may be flexible and negative in short run however, tends to behave not the same in case of long run reason being the out looked natural rate of unemployment/full employment level of an economy. The findings thus clarify the view point of Monetarist in empirically testing that short run exposure of INF to EMPL is though positive, however turns out to be negative and significant in long run.

[31] For the remembrance, it is already found that entire variables of the study sketched in Model- I to Model-IV (Time Series, SAC) have been established to settle as stationary at I(0) or I(1) and nevertheless cointegrated, therefore, estimation of unrestricted VAR is authorized. Wherein, after the prelim estimation, each model is processed with IRVD for obtaining the results. In this respect, the optimum lags are chosen in the light of AIC.

[32] That is to capture scaled production target to be met in limited time, low in cost, properly furnished thus of acceptable and absolutely advantageous on other firms' product line, and appreciably plausible by foreign as well as local buyers. All such are only true if the production is carried out in scientific rather than that of being along artisans that are though favorable for the firms in short run due to the low payments as are cheap however, at the cost of future low demand for the products due to missing attributes, stated afore.

[33] The literature (empirical) possesses the negative as well as positive potential impacts of FDI on the employment level of the host country. However, according to Jenkins (2006), forms of effects of FDI on employment do tend to post different outcomes in result of type of FDI that is taken into account.

Also, see Braunstein and Epstein (2002), Jenkins (2006), Akcoraoglu and Acikgoz (2011), and not the least Rizvi and Nishat (2009) who published the findings that in Pakistan, India, and China, it is not the FDI that promotes employment.

[34] Despite of the fact that banks' officials and the governments of the economies, where capital is an instant need to gear up for the carry out of the actions to better off an economic stature, do know that the money (debts) would be by and large diverted towards the self interests by the corrupt elites, thus the volume of loans consistently rise (Hurley, 2007). Thereafter, not only though the government, either the same one that hires the loans or the newly elected, continues to bear the depression of the mandatory serving of such heavy debts by gathering heavy funds which otherwise would have been dispensed for curtailing chronic poverty and other challenges of economic development.

[35] Continual of dependency on foreign capital i.e. borrowed capital on no concessional rates when geometrically accumulates the size of external debts and liabilities on third world economies, for instance SAC, makes them realize that although already indebted heavily, should go for the further borrowing of capital from other international donors to pay off certain amount to some of those former lenders, as promised earlier. This myth keeps on accumulating the range of debt burden and further borrowings together with the request(s) for the rescheduling of the loans at the cost of compromising the address up of internal macroeconomic issues.

Also see Hepp (2005) for further elaborations on debt crisis and possible macroeconomic effects of the same on categorized heavily and non-heavily indebted countries.

[36] Government of especially less developed countries i.e. at present SAC levy heavy taxes to finance their budgetary deficit and to sponsor ongoing and/or futurist plans of developmental and non developmental project. Whereas, not realizing that such heavy imposition of taxes leads to condense the consumption expenditure of the people, due to the reduced amount of leftover (disposable income). Nevertheless, heavy taxes if introduced, most probably are not to bring new people in tax payers' regime rather further burden already tax payers. This altogether is what

Keynes (1936) thought to be as deterrent in the job creation process. Moreover, fall of consumption is also affirmed to be as harder towards employment. On the contrary, aid attractive exposure of a particular country/region (SAC) favors the government to gear up economic activities (economic growth and job creation), given that borrowed capital is interest free and not repayable such as FORAID. Therefore, enables them to fix not less steady rather gradual macroeconomic lift ups.

[37] For further gain of content(s), see Bakht and Mahmood (1989), Lerner (1967), Keynes (1936), and Conway (1992).
Whereas, Brown (1994), Taylor (1999), and Amjad (1986) added that worker remittance are the altruistic payments dispensed to the families that remain in immigrant's state of the origin in order to accommodate their day-to-day consumption patterns and/or investments in case of human as well as in physical capital by the mean of acquisition of assets in the shape of land, good (capital), and nevertheless, housing. Nonetheless, all of such amalgamation and inclusions of economic activities surely foster employment generation. On the contrary, Grigorian and Melkonyan (2011), Kovtun *et al.* (2014), and Mughal and Makhlouf (2013) outreached that beneficiaries of worker remittance are led towards of longer hours for job search, descend in work skills, and thereby adhere to shorten the labor supply.

[38] Hertner and Jones (1986) called FDI as a component of FCI that deals with the transfer of financial assets from one country to that of the next and therefore has meaningful effects on the beneficiary. Subsequently, apart from a fact that FDI is essential for EMPL, it is important ingredient for coping up with the needs of sector wise growth. That's the reason FDI is always welcomed.
For sector wise causality relation of FDI, see Khan and Khan (2011).and Bekhet and Mugableh (2016).

[39] Good governance is defined as a composite of transparency and accountability. It is based on two premises. First; effectiveness of policy is strengthened if goals and the policy instruments are publically known and government should commit herself for meeting those. Secondly; good governance at; ministry of finance, offices that manage foreign aid and debt, central bank, and other public institutions those are involved in the machinery of managing, allocation, monitoring, and gauging such foreign inflows.

[40] According to Worldwide Governance Indicators (2012), the dimensions of governance for Bangladesh, Sri Lanka, Pakistan, and India are (-0.86, -1.09, -0.34, and -0.30, respectively) whereas, the estimates range within -2.5 (weak) and 2.5 (strong), are to gauge governance performance.